

















# MARKETING AND DISTRIBUTION RESEARCH

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A REVISION OF

MARKET RESEARCH AND ANALYSIS

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## PREFACE

This book shows how the application of marketing and distribution research methods can improve the efficiency of marketing operations and reduce the cost of distribution. It is a basic book, covering all aspects of the subject so that the business executive, student, and research technician may obtain a broad understanding of both the uses and methods of research in marketing. It is purposely written so that readers without a technical research background may find an understandable but thorough treatment of the subject. At the same time, the technical procedures are described so that the trained technician will have an exposition which brings into one source the best professional practice of today.

This revision has been prepared in response to numerous requests from business executives, teachers, and practitioners who have found the first edition useful. The title has been changed from *Market Research and Analysis* to its present form in order to indicate its broadened scope and to be in keeping with changing terminology.

Since the publication of the first edition in 1937, knowledge of marketing research techniques has rapidly advanced. What was then considered an interesting new approach to the solution of marketing problems has now become an accepted foundation of business policies and operations. In this revision the new methods and new knowledge of research procedures have been incorporated. More emphasis has been placed on specialized applications, such as product research and opinion research, with several new chapters devoted to the treatment of these specific uses, in the light of techniques recently developed for each of these fields. At the same time, the basic scientific principles and marketing research procedures enunciated in the first edition have been retained.

Discussion of the roots of the subject in scientific method discloses the fundamentals upon which the specialized techniques rest. The basic procedure of marketing and distribution research is explained in detail. Techniques for the various steps in a specific research project are written in a practical, "how to do it" manner. The value and validity of the methods set forth have been proven again and again by the author and many others through their application to a wide



variety of problems for a large number of products and in different types of business organizations.

Reference to specific examples and direct quotations from recent sources are employed freely to make the treatment realistic and practical. Footnotes are used liberally, so that anyone who wishes to pursue a given subject in further detail will have a direct reference to more complete exposition.

Marketing and distribution research is too important a subject to be read lightly. Mere knowledge of its forms and techniques is not enough. To obtain the greatest value from its application to business, the executive and research practitioner must possess a fundamental understanding of the role it plays, its scientific foundations, its relation to business operations, the contribution it can make. This volume makes some contribution to economic theory by revealing the methods of an important field of applied economics, and to the still broader field of scientific method in the social studies. The writing is purposely challenging to stimulate critical thinking, to develop a scientific point of view, and to provide a genuine understanding of the subject.

When the first edition was developed at Northwestern University, this institution was the only one in which a formal course in marketing research was regularly offered. Today practically every university with a marketing curriculum offers a course in the subject. It has now become an established fact that descriptive courses in marketing must be supported by courses in research method if the student is to be prepared properly for a career in marketing. The procedures learned in such method courses are used by the student to meet the many and varied problems which arise in his later work.

The names of business associates and university colleagues who have helped me are too numerous to give. I am particularly indebted to the late Professor Fred E. Clark, who encouraged the original work, gave liberally of his time, and was one of the pioneer supporters of the development of marketing research in the business curriculum. Faculty members in many universities, who use the book as a text, have been most helpful in their suggestions for the revision, particularly Professor William Drager, in connection with the chapter on sampling. Miss Isobel Frary has been of great assistance in production. My chief indebtedness is to my wife, Blanche B. Brown, who has taken an active part in the preparation of this book.

LYNDON O. BROWN

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# MARKETING AND DISTRIBUTION RESEARCH



# CHAPTER 1

## SCOPE AND IMPORTANCE OF MARKETING AND DISTRIBUTION RESEARCH

You drive into a filling station in Yourtown, U.S.A. While attendants fill your gasoline tank and service the car, you stroll into the station, pick up a soft drink, and purchase a pack of cigarettes. This type of experience is commonplace for most Americans. What you may not realize is that back of this simple buying transaction lies a vast complex of industry, of which a relatively new element, marketing research, is now an essential part.

The process may seem casual, but it was not by accident that you drove into that particular station, purchased certain brands of products, bought the cigarettes, or enjoyed that soft drink. The chances are that the selection of that particular location for the station itself was not primarily a matter of personal judgment, but rather of a considerable amount of marketing research into the community, competitive situations, neighborhood characteristics, and traffic-flow counts. The gasoline you purchased may have been priced on the basis of careful marketing studies to determine optimum prices. Even the words spoken to you by the attendant may have been developed as a result of research which tested the effect of various personal sales approaches.

While waiting for your car to be serviced, you were subjected to a variety of silent influences in the form of station layout, merchandise display, and a barrage of advertising signs. Again, these matters were not left to the opinion of company personnel or the dealer, but rather were based on marketing research studies of the effectiveness of various forms of store layout, merchandise display, and advertising. The selection and training of the dealer and his employees, the supplementary services performed free or for a charge, and the quantities of stocks maintained are a few other items in a modern marketing operation in connection with which marketing research plays an increasing role.<sup>1</sup>

<sup>1</sup> See, for example, *What Does the Motorist Expect at His Gasoline Station?* a study made by the Hearst Newspapers in 1946. This study was based on a survey of 4,330 car owners who were asked exhaustive questions about servicing, promotion, etc.



After you leave the filling station you drive to a food store. Here you make only a few simple purchases—perhaps a package of breakfast cereal, a few bars of soap, and a can of dog food. Again, casual as this process may seem, the layout of the store, the various products you saw, and a whole host of other sales influences were probably based on marketing research. The chances are that the cereal you bought had been tested time and again on other consumers to insure that the product would have maximum consumer acceptance, that the package design was also carefully developed through marketing research. Back of your simple purchase of a few bars of soap lies a tremendous advertising campaign; the commercial spoken by the radio announcer—words which you thought made no impression on you—was probably written on the basis of extensive research to determine the relative effectiveness of various types of advertising appeals, even of individual words.

On the way home, as you are held up at a railroad crossing while a passenger train passes through Yourtown, you may not realize that the design of the coaches, the types of services offered, even the schedule of the train itself, were probably determined to a large extent by marketing research studies of the desires and needs of the traveling public.

As you sit at home in your easy chair, reading a magazine, you may be completely unaware that marketing research, through studies of thousands of readers similar to you, has provided the foundation for the editorial material as well as the advertisements you read. When another member of your family glances at an advertisement for a motion picture and urges that the entire family go to see it, probably none of you realizes that the title of the picture, the scenario, the selection of leading actors, as well as the methods by which it is publicized, were all influenced by marketing research. In fact, even the film cutter, who eliminates parts of the finished film to prepare it for release to the public, may very likely be following directions which are based on studies applying marketing research techniques, studies by which sample groups of movie patrons register their opinion of the interesting and dull parts of the movie on electrical opinion meters.<sup>2</sup>

Your home is a veritable display of the evidences of the end applications of marketing research. In pantry, bathroom cabinet, living room, in fact, all about the premises, you live among the end products of the American economy, brought to you by the process of mar-

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<sup>2</sup> See Marjorie Fiske and Leo Handel, "New Techniques for Studying the Effectiveness of Films," *Journal of Marketing*, January, 1947, pp. 390-393.

keting. There is no item in your home today that is not subject to marketing research, and probably very few that, in one way or another, have not been affected significantly by marketing and distribution research.

The products which you, as a consumer, purchase and see about you are but the end products of an intricate economy, American industry. Back of these consumer goods lies a complex industrial organization to market the raw materials, processed goods, machinery, and other industrial products needed to manufacture consumer goods. Here, too, marketing and distribution research is playing an increasingly important part in helping management take the guesswork out of marketing. Every time a product moves from one producer to another, directly or through some form of dealer, the marketing process takes place, hence creates an opportunity for marketing research to guide management.

The illustrations cited do not begin to cover the innumerable applications of marketing and distribution research in modern business. This new tool is also applied effectively to the marketing of services—from banking and insurance to vacation resorts. To cite but one other example—the marketing of farm products—the California Fruit Growers Association bases the distribution, promotion, and advertising of Sunkist products on a thorough program of marketing research.

**Definition of Marketing and Distribution Research.**—The all-pervasive importance of marketing and distribution research in present-day industry is suggested by its definition: *Marketing and distribution research is the use of scientific method in the solution of marketing or distribution problems.*<sup>3</sup> There are three essential elements in this definition: (1) application of scientific method, (2) solution of problems, and (3) marketing and distribution.

*Application of scientific method* means that marketing research is limited to those activities which employ truly scientific methods according to currently accepted standards. Casual observation of a situation, reading of general literature, or going through the motions of “making a study” does not constitute scientific method, helpful as these activities may be. Only to the extent that procedures such as those discussed in this book are employed can the operation be considered scientific.

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<sup>3</sup> The definition recommended in 1948 by the Committee on Definitions of the American Marketing Association is: “The gathering, recording, and analysis of all facts about problems relating to the transfer and sale of goods and services from producer to consumer.”

*Solution of problems* implies a restriction of marketing and distribution research to those instances in which a specific problem or group of problems is identified as the subject for the research. There is no marketing policy or operating decision which cannot be reduced to a problem. However, it would be folly to attempt to apply scientific research methods, which are costly and take time, to provide a basis for every decision that must be made. It is a prime function of management to make thousands of decisions on the basis of judgment and experience. When a particularly significant problem arises, these management decisions should be based on marketing research.

*Marketing and distribution* embrace the entire process of getting goods and services from the factory or institution which produces them to the final consumer for ultimate consumption. By definition, marketing and distribution research is applicable to all phases of this process. The magnitude of marketing in a modern economy is quickly demonstrated by the fact that approximately 60 per cent of the ultimate consumer cost of the products of American industry are marketing and distribution costs.

The reader will note that the terms "marketing" and "distribution" are used jointly and synonymously in this book. This is in accordance with current practice. In certain sections of the country and among certain groups of marketing practitioners, the term "distribution" is commonly employed to describe the entire process of getting goods and services from producer to consumer.<sup>4</sup>

**Marketing Research as a Management Tool.**—Business is rapidly coming to recognize that the greatest opportunity for increasing profits lies in increasing the efficiency of distribution and, in turn, decreasing the costs of distribution. The generalized estimate that distribution costs represent approximately 60 per cent of the final cost of commodities to the ultimate consumer has been substantiated by studies of the A. C. Nielsen Company. Nielsen's clients in the food and drug industries sell their products for an aggregate consumer price of about fifteen billion dollars. Only about seven billion represents the cost of production (including materials, labor, overhead), taxes, and profit; the remaining eight billion represents the cost of distribution incurred by the manufacturer and the trade combined.<sup>5</sup>

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<sup>4</sup> The Committee on Definitions of the American Marketing Association, in its 1948 bulletin, "recommends that *distribution* be regarded and used as synonymous with *marketing*. It further recommends that in so far as possible its (distribution) use be discontinued . . . because it has a rather specialized meaning in economic theory and its indiscriminate use is likely to cause confusion."

<sup>5</sup> Arthur C. Nielsen, "Advances in Marketing Research," Eighteenth Boston Conference on Distribution, 1946, pp. 82-83.

There is ample evidence that, in the future, the reduction of distribution costs will offer the greatest opportunity for securing competitive advantages. Other cost factors, such as labor, raw materials, factory production facilities and taxes, are becoming progressively more standardized within industries. For example, manufacturers have much less opportunity today to gain a competitive advantage in labor costs; in fact, management is rapidly losing most of its control over these and certain other costs.

Those who are in any way responsible for the operation or control of business activities have a direct interest in the rapidly increasing application of scientific method in the field of marketing. Top management is most directly interested, for it knows that the continued existence of a business requires that haphazard methods of selling and distribution be replaced by policies and operations based on scientific measurement of consumers, dealers, and markets. The executive must reduce the cost burdens involved in selling his products and services, and must see to it that every possible waste is eliminated. Manufacturers, wholesalers, retailers, and business consultants are compelled to devote more and more of their time to marketing problems. The sales manager is forced to develop more efficient means to increase his sales volume economically.<sup>6</sup> Individual salesmen are using the results of marketing analyses to make their daily work more effective. Advertising managers and agency practitioners apply results of marketing studies in their specialized functions. Even the general public has a direct interest, for lower costs of marketing reduce prices and efficient marketing makes goods more widely available to the ultimate consumer.

Two specific examples of the importance attached to marketing research as a tool of management by present-day business may be cited. The attitude of the General Electric Company has been expressed as follows:

The management of the General Electric Company is sold on the use of market research, not only as a sales tool, but also as an operating tool. And with good reason. For just as physical research and engineering lower the cost of making things, market research lowers the cost of putting those things into the hands of the people. Together they result in not only less costly, but better and more useful products for more people.

And just as General Electric pioneered in industrial research, it also pioneered in industrial market research. . . . General Electric started market research as long ago as 1921. . . . Today, each of the six operating depart-

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<sup>6</sup> For an excellent statement of the place of marketing and distribution research in sales management, see Robert F. Elder, "What Sales Management Expects from Research," *Journal of Marketing*, July, 1948, pp. 52-54.

ments of the Company has organized market research units, and one or more of our affiliated companies. In addition, there is a general company market research organization that reports directly to the President's staff.<sup>7</sup>

The attitude of the General Foods Corporation has been described as follows :

Virtually the entire program of operations of the General Foods Corporation is based on finding out what the public wants and what the public thinks. The company makes use of the information, opinions, and questions it receives from the public, not only to guide it in merchandising particular products, but to shape its policy generally.<sup>8</sup>

**Effect on Business Success.**—Marketing and distribution research activities increase business success in several specific ways :

1. They delineate the significant marketing problems of the business. In the constant pressure of day-to-day operations, the business executive frequently has a mistaken impression as to the factors which really handicap marketing activities. The isolation of the basic causes of marketing inefficiency is often the most important single contribution to management which marketing research makes.

2. They keep a business in touch with its markets. Marketing researches interpret markets to the business organization, so that business policies may be aimed in the right direction and based on facts rather than hunch, guesswork, opinion, or casual impressions. They overcome the danger that the modern, complex, and highly organized business enterprise will lose the feel of the demands of the markets.

3. They reduce waste in marketing methods. The effectiveness of different methods employed by the business is measured in order to eliminate those which are inefficient. More effective and less expensive methods of marketing and advertising may be found.

4. They develop new sources of profit through the discovery of new markets, new products, and new uses for established products.

5. They are insurance against unanticipated changes in the market which have the power to make a product or an industry obsolete. They show the business where it is going.

6. They can be used for sales promotion purposes. Many business firms are now using the results of their research work as a direct means of doubling sales.

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<sup>7</sup> Robert S. Peare, Vice President, General Electric Company, in an address before the Market Research Council of New York, December 13, 1946.

<sup>8</sup> Milton Wright, *Public Relations for Business*, New York, McGraw-Hill Book Co., Inc., 1939, p. 236.

7. They can reduce costs of production and other administrative expense. While marketing and distribution research is designed primarily to make distribution more efficient and to cut its costs, there are many ways in which its results lower costs of manufacturing. Examples are through simplifying the product line or through making production in larger volume possible.

8. They infuse enthusiasm into the business organization. With the knowledge that a company bases its marketing activities on scientific knowledge of the market, employees have a confidence which kindles their enthusiasm. The executives know that they are operating intelligently and are following the proper course. Every salesman, for example, knows that his product is right, that there is a market for the product, that he is being backed up by advertising that is sound, and that the selling methods he employs are proven.

The general values of marketing and distribution research have been summarized by a committee of the American Management Association:

Every practical business man is bound to ask—and rightly so—“What am I to expect in the way of a return on the financial outlay for marketing research?” What better way to answer this question than by summarizing the answers most frequently given by other business men—men who have invested the “marketing research dollar” and have found the dividends fully as satisfactory, if not more so, than those from the “engineering design dollar” or the “laboratory dollar”?

1. An organization is enabled to build its marketing structure on *facts*, thus eliminating much of the inefficiency and waste incurred by distributive efforts based wholly on past experience, intuition and pure chance.
2. Marketing executives and sales personnel, as well as employees generally, are more confident of the soundness of operations and activities which rest on the bedrock of a desirable and acceptable product or service, a favorable competitive position, and tested channels of distribution.
3. Major operating executives in the organization develop an understanding and appreciation of the product or service and of marketing methods in general, giving them a good reason to become “sales-minded.”
4. The findings of marketing research indicate the direction which technical research should take by providing concrete data on *customer* preference relating to composition, design or other attributes of the product or service.
5. Marketing research fosters good will, both in the consumer market and in the industrial market. As the activities become more firmly

rooted in scientific methodology and professional viewpoint, a cooperative spirit is introduced—between producer and consumer, between producers of complementary products, between producer and wholesaler, etc.—resulting in improved marketing methods for entire industries.

Because of these and other contributions, one executive has aptly characterized his company's program of marketing research as constituting an "insurance policy"—as one more vital means of insuring the survival of the individual enterprise in a dynamic economy which demands, above all, foresight and preparedness.<sup>9</sup>

The broad manner in which marketing and distribution research is applicable to a wide variety of management problems is illustrated in a check list of questions proposed for any manufacturer interested in frozen foods. The writer<sup>10</sup> indicates that marketing research is pertinent to 96 of a total of 145 questions raised in this all-embracing check list. In addition to the specific areas of marketing, sales distribution, and advertising, marketing research is indicated as applicable to problems in the fields of management, financial appraisal, raw materials, plant location, packing, storage, shipping, and law.

A further indication of the broadening extent to which marketing research is applied throughout the management structure is shown in Figure 1. This check chart was developed by W. W. Heusner<sup>11</sup> in connection with the joint survey made by the National Association of Manufacturers and the American Marketing Association in 1946.

A. C. Nielsen has analyzed the significance of marketing research to business management in terms of the necessity for knowing, on the basis of facts, that business policies are sound in the light of marketing conditions. He has summarized the essential contributions of marketing research in the following form:<sup>12</sup>

. . . ask yourselves bluntly whether you positively know . . . :

1. That your *product* has, in every respect, the absolute maximum of appeal and usefulness to the customer.
2. That your *packaging* employs the most salable sizes, and that your packages have the maximum consumer appeal.
3. That your *price* is set at exactly the level that insures maximum dollar profit (barring temporary legal restrictions on pricing).
4. That your *trade discounts and trade policies* are exactly right.

<sup>9</sup> American Management Association, *A Company Guide to Marketing Research*, Research Report No. 5, 1944, p. 13.

<sup>10</sup> C. R. Havighurst, *Food Industries*, December, 1945, pp. 102-103.

<sup>11</sup> W. W. Heusner, "How to Double Your Returns from Dollars Spent for Sales Research," *Sales Management*, May 1, 1946, p. 114.

<sup>12</sup> Nielsen, *op. cit.*, pp. 83-84.

NORMAL FUNCTIONS OF MARKETING RESEARCH	PROBLEMS AND DECISIONS FACING TOP MANAGEMENT																																		
	PRODUCTION			SALES				ADVERTISING		FINANCE		GENL. ADMIN.																							
	Product Changes—New and Old Products	Plant Location	Production Capacity Requirements	Inventory—Raw Materials and Parts	Inventory—Finished Product	Manpower Requirements	Package Size—Design, etc.	Labor Relations—Wages—Hours, etc.	Potential of Markets—Total and Individual	Defining Market Areas	Selection of Method of Distribution	Location and Selection of Distributors	Distribution Required for Volume	Size and Organization of Sales Force	Control of Sales Force	Selection and Training of Salesmen	Compensation of Salesmen—Incentives	Price and Discount Policy	Budget Requirements	Distribution of Budget—Territory and Media	Selection of Media—Type	Selection of Copy Themes	Kind and Type of Print or Purchase	Working Capital Requirements	Fixed Capital Requirements	Credit Policy	Discount Policy	Stockholder Relations—Resorts	Budgetary Control	Price Policies	Employee Relations	Public Relations	Government Regulation	Salary Scales	Dividend Policy
ANALYSIS OF ECONOMIC TRENDS .. Short term forecasts 1 yr. or less Long term forecasts over 1 yr. for industry and company All pertinent economic factors	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
MEASUREMENT OF SALES POTENTIAL Total market Company's share Potential by market—State—Area Sales quotas—Terr.—Dist.—Total	x	x	x	...	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
MEASUREMENT OF SALES TRENDS .. Effect of sales policy changes on company's position in industry Competitive trends	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
STUDIES OF PRODUCT AND PACKAGING New uses for old product New product utility Effectiveness of packaging	x	...	x	...	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
ANALYSIS OF DISTRIBUTION .. Retail and wholesale distribution attained Retail and wholesale distribution available Outlet coverage of salesmen Efficient size of territory Preferred types of outlets	x	x	x	...	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
ANALYSIS OF PROFITABILITY..... Of markets Of products Of territories Of distributors and retailers	x	x	x	...	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
DEMAND AND PRICE STUDIES. .... Consumer income and demand Demand vs. price Geographical differences in demand	x	x	x	...	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
ANALYSIS OF COMPETITION . Product—Price—Sales method and policy— Volume	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
DETERMINING CONSUMER REACTION Product use Brand preference Buying habits Advertising themes and media Company prestige	x	...	x	...	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
DETERMINING DEALER REACTION . To sales policy and credit policies To product and packaging To brand and competitive brands To sales force	x	x	x	...	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
MEASURING ADVERTISING EFFECTIVE- NESS .. Readership—Listening Impact—Recollection Identification	...	...	x	...	...	x	...	x	...	x	x	x	x	...	x	...	x	...	x	...	x	x	x	...	...	...	...	x	x	...	...	...	...	...	...

Figure 1. Marketing Research as a Management Tool

This check chart shows the wide variety of applications of marketing and distribution research to the different facets of the modern business enterprise. (From W. W. Heusner, "How to Double Your Returns from Dollars Spent for Sales Research," *Sales Management*, May 1, 1946, p. 113)



5. That your trade inventories are always at the most effective levels.
6. That your sales effort is most effective, as to
  - (a) Number of men
  - (b) Type of men
  - (c) Method of employing their *time*.
7. That your *advertising effort* is right as to *quantity*, that each dollar is being spent in the most effective media, and that the wisest decisions have been made in matters such as
  - (a) *Size* of advertisements
  - (b) Use of *color*
  - (c) Copy theme
  - (d) *Frequency* of insertions
  - (e) Distribution of advertising by
    - Seasons
    - Geographical areas
    - City sizes
    - Consumer income
    - Types of consumers
8. The reasons for *lost business*.
9. That the results of each strategic move have been accurately measured —whether the move was made by *you* or by any one of your *competitors*.

**The Rise of Marketing and Distribution Research.**—Engineering research based on the physical sciences was adopted in the production phases of business many years before the introduction of marketing research. There are few firms which do not, to a marked degree, apply some of the principles of engineering research. It is estimated that from \$500,000,000 to \$750,000,000 is spent annually on industrial research.<sup>18</sup> Marketing research, on the other hand, is generally regarded as being little more than a quarter of a century old.

Several factors account for the earlier development and widespread use of research in the field of production. One of the most important is that production research deals with physical elements which can be handled with standard laboratory procedures. The tools and technique for physical research had been developed in the scientific laboratories, particularly those of physics and chemistry, and a well-trained body of engineers was available. Furthermore, the direct financial gain resulting from the application of research to production is readily seen. Lowered costs which follow changes in the product or production methods may be accurately measured and

<sup>18</sup> *Sales Management*, September 15, 1945, p. 35. This report on a number of case studies shows the contrast between industrial research and marketing research expenditures and manpower.

credited to the production research laboratory. Another important reason for its rapid growth has been the constant demand for greater production in a country which was rapidly expanding. During the early part of the twentieth century this expansion focused the attention of business executives upon the problems of production, largely to the exclusion of problems of marketing.

After the first World War the excess production capacity and the shrinkage of world markets created pressures which shifted much of the attention of executives from production to marketing. At the same time, with the development of large-scale production, the gap between producer and consumer widened. The introduction of complex and highly specialized forms of business organization also contributed to the need for some definite procedure to keep firms in touch with requirements of the market.

**Present Use by Industry.**—The volume of marketing and distribution research has increased steadily since the late 1920's. Today there are few firms which do not employ research to some extent. Marketing research departments are now found in hundreds of business firms. Large and small organizations alike use independent research organizations to solve critical marketing and distribution problems, for these facilities may be employed as effectively by smaller firms as by the largest corporations. While it is true that in the past some companies were willing to pay dearly for engineering studies of their factories and products, but were reluctant to appropriate large sums for distribution research, a growing appreciation of the need for continuous marketing research insures that in the future it will play a vital part in business management. The reasons for its existence are too deeply rooted in the basic characteristics of present-day business for it to fail to grow rapidly in the future. Recognition of the fact that marketing and distribution research is a basic tool of top management, rather than a supplementary device to be employed only as an administrative aid at the lower levels of business organization, has contributed more than any other single factor to placing it in a vital position in American industry.

Marketing and distribution research has recently been undergoing a period of rapid expansion. The development of techniques of demonstrated accuracy, the growth of trained personnel, the building of facilities, and the expanding demand of business for this new management tool have all contributed. It is clear that its importance and use are growing at a pace which taxes its limited personnel and facilities to the utmost.

No accurate data on the actual dollars spent annually by American industry for marketing research are available. *Sales Management* magazine in 1938 estimated this volume as \$4,000,000. *Newsweek* in 1948 reported estimates as running up to \$30,000,000.<sup>14</sup>

A survey made by the American Marketing Association in 1947 reported that approximately 38 per cent of 4,786 business firms engaged in marketing research of some kind.<sup>15</sup> Eleven per cent of the companies questioned had organized research departments, while 27 per cent conducted marketing research as a line executive function, relying on outside sources for actual work. The survey showed that the extent to which marketing research was used varied considerably according to volume of sales and type of industry. Only 23 per cent of the firms doing an annual sales volume of under \$500,000 engaged in marketing research, whereas 73 per cent of those doing over \$5,000,000 per year did so. The greater use by larger companies is further indicated by the fact that 45 per cent of them maintain organized research departments.

Consumer-goods companies were larger users of marketing research than were those producing industrial goods, although the raw percentages of total firms doing some research varied from 46 per cent for consumer-goods manufacturers to 35 per cent for industrial goods. However, it was found in this study that 29 per cent of consumer-goods manufacturers with small sales volume (under \$500,000) engaged in marketing research, while 80 per cent of those with sales of over \$5,000,000 did so.

The total volume of marketing research has increased steadily during recent years, but there is every indication that its greatest period of expansion lies ahead. That this field has not yet begun to find its full stature is indicated by estimates that only about one cent out of every sales dollar is spent for research of all types, and that only about 2 per cent of this amount is spent for marketing research. In this connection, the National Industrial Conference Board says:

Distribution is far behind production in the race for greater efficiency and lower costs. . . . Scientific market research offers industry an objective approach to the problems of distribution that has helped many companies to improve their products, broaden their markets, and cut distribution costs. . . . All companies, whether they realize it or not, engage to some extent in market research. . . .<sup>16</sup>

<sup>14</sup> Harold Isaacs, "Market Research Helps Chart Course for Business," *Newsweek*, March 29, 1948, p. 70.

<sup>15</sup> W. W. Heuser, C. M. Dooley, G. A. Hughes and Percival White, "Marketing Research in American Industry: I," *Journal of Marketing*, April, 1947, pp. 338-354.

<sup>16</sup> National Industrial Conference Board, *Organization for Market Research*, Studies in Business Policy No. 12, 1945, p. 1.

A most significant indication of the future ahead is revealed by a finding in the American Marketing Association's study. Of the 539 companies with established research departments, nearly 80 per cent reported that they intended to expand them; and of the companies with sales of over \$5,000,000 that did not have a centralized department more than half reported that they intended to organize one.<sup>17</sup>

**Vocational Opportunities.**—With the recent expansion in marketing research, the field offers growing and unusual vocational opportunities to well-trained individuals who choose this calling. While many of the present practitioners have learned solely through experience, a growing number are preparing themselves on a more professional basis.<sup>18</sup>

The various specific job opportunities in marketing research are now described in detail in a vocational guidance manual.<sup>19</sup> Such a variety of tasks is involved that an individual may readily find a particular specialized aspect of the work which fits his particular talents. The American Marketing Association maintains placement activities in each of its local chapters now scattered throughout the country. While the greatest number of marketing researchers are in the larger industrial cities, people now engage in this vocation in all types of cities and all sections of the country.

Marketing research offers vocational opportunities for both men and women. In fact, it offers relatively unusual opportunities for women interested in either full-time or part-time careers.<sup>20</sup>

A further indication of the expanding opportunities in marketing research is found in the directory of independent marketing research agencies, which is now published annually. The 1947 edition lists over 200 firms.<sup>21</sup> In Chicago alone, the number of marketing research firms increased from only three in 1932 to eighty-two in 1948. In this area the number of members in the American Marketing Association has increased to over 400; almost all of them are from twenty-five to forty years of age, an indication of the youth of the personnel in the marketing research field.<sup>22</sup> The national roster of

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<sup>17</sup> Heusner *et al.*, "Marketing Research in American Industry: II," *Journal of Marketing*, July, 1947, p. 37.

<sup>18</sup> See Lyndon O. Brown, "The Responsibility of Education and Industry in Training Personnel for Marketing Research," *Journal of Marketing*, October, 1947, p. 246.

<sup>19</sup> See John H. Platten, Jr., *Opportunities in Marketing Research*, Vocational Guidance Manuals, Inc., 1946.

<sup>20</sup> See Pauline Arnold, "Woman's Role in Market Research," *Journal of Marketing*, July, 1947, pp. 87-90.

<sup>21</sup> Ernest S. Bradford, *Bradford's Survey and Directory of Marketing Research Agencies in the United States*, 3rd ed., privately printed, New York, 1947.

<sup>22</sup> M. A. Hasselmann, "Chicago a Market Research Center," *Manufacturers' News*, February, 1948.

the American Marketing Association listed 2,972 active members as of December 31, 1947.

**Economic and Social Aspects.**—A profound shift in the basic economics of the United States has come about as a result of the development of marketing and distribution research. Traditionally, the economic process has begun with the producer. Until recent years the manufacturer, farmer, or service entrepreneur marketed a product which he thought he could produce most efficiently and at the greatest profit. On the basis of his personal experience and skills, he set up an organization and established price and marketing policies. The product was then promoted by aggressive sales methods and by advertising directed to the consumer.

Today, modern industry begins at the opposite end. It studies the market to determine the products needed, the general characteristics of demand, the prices the market will pay; and with a myriad of marketing information, it literally produces to the market. Thus, management thinking now begins with the demand side of the economic equation. Production to a carefully measured demand provides a much sounder and more efficient economic structure.

To an amazing extent, the daily lives of people living in America, the things they eat, wear, and enjoy, as well as the methods by which they obtain them, are influenced by marketing and distribution research. The public may blow its nose in a disposable tissue, the size, shape, texture, color, packaging, price, and distribution of which have been largely determined by a vast amount of marketing research. More important, from the social point of view, marketing research is the means by which the ultimate consumer literally becomes king of the market place, with his desires, prejudices, and every whim translated to the producer and distributor by research.

The ultimate aim of marketing research is to reduce the cost of distribution, and, consequently, the price which consumers pay for the things they need. In a free competitive economy, the ultimate effect is bound to be a significant increase in the consumer's standard of living. The present relatively high distribution costs, already referred to, indicate the great extent to which the growing application of marketing research by industry can be a major factor in improving the general standard of living.

The present economic system is based fundamentally upon the principle of individual initiative and the profit motive. There is no need to go into the limitations of this system. However, it should be pointed out that perhaps a fundamental weakness of the self-

interest theory, which has dominated the economic structure since Adam Smith, is not so much in the viciousness of businessmen as in their errors. Business mistakes beget sharp business practices and many of the present wasteful methods. If one takes individual cases of business failure, he will find that in most of them false judgment of market possibilities played an important part. Accurate measurement of markets, which reduces errors caused by ignorance, removes one of the chief weaknesses of the individual-initiative, profit-motive system.

A few years ago, a company planned to manufacture electric clocks. A careful analysis of the market showed that the industry had expanded so rapidly that more than 75 per cent of the companies already in the field, or intending to enter it in the following twelve months, would eventually be forced out of the business. Subsequent events proved the wisdom of this forecast, prices of the majority of low-priced electric clocks falling from \$5 to \$1 or less in a short time.

Production in anticipation of demand is another fundamental characteristic of the present economic structure. Custom work has been relegated to an insignificant role, as practically all products are first made and later sold. This scheme leads to huge forward commitments, both in the field of consumer goods and in that of industrial products. Manufacturers must be prepared to forecast demand from six months to a year and even longer. Failure to evaluate markets properly must of necessity lead to economic waste.

Large-scale production methods require large-scale and adequate markets. In the desire for increased volume, there is a constant tendency to overestimate the capacity of markets to absorb a product. The result is that even in relatively "normal" business conditions, industries suffer from excess plant capacity. During periods of so-called prosperity, plant capacity rises sharply, so that in depression the excessive capacity, in itself, becomes a great economic burden.

In periods of business depression a plethora of theories concerning the business cycle are advanced. These alternating periods of prosperity and depression appear to be inherent in the capitalistic system, and furthermore to become progressively more aggravated as the system becomes more and more complicated. While almost everyone seeks for the touchstone which will explain by one theory the fundamental cause of these swings, there are many factors which contribute and it is impossible to point to any one as the sole cause.

The overproduction theory is not in very good repute at present, perhaps because of the orthodox economists' logical refutation of

the possibility of economic overproduction. An examination of depressions, however, points to overextended plant capacity and overproduction as a major, if not the ultimate or sole, cause of depressions. The depression of 1873, for example, was preceded by immense expansion of industry, particularly in railroads. In 1920 the country was faced with plant capacity overextended by war needs. In 1929 we had plant capacity predicated on an abnormal expansion of the domestic market, development of foreign trade, installment selling, and an effort to retain the expansion of war times.

The depression of 1929 has been analyzed by many as primarily a monetary and credit depression. Yet the bulk of those credits were originally for purposes of plant expansion; the speculation was based on Pollyanna concepts of the future volume of industry. Had production been curtailed as soon as markets began to shrink (this shrinkage began in most cases a year before the financial crash), the huge superstructure would never have attained the heights to which it climbed. It is interesting to note that the wildest speculation came after sales volume in many lines was actually curtailed.

### **The Role of Marketing Research in the Theory and Practice of Marketing**

**Limitation of Scientific Principles in Marketing.**—In marketing, as in all fields of human activity, basic laws or general principles are constantly sought. Just as the engineer employs fundamental scientific principles in his daily work, the marketing man seeks to use basic generalizations in meeting the problems of his business. In marketing, however, the solid foundations of physical phenomena which give permanence and universality to the principles of the older sciences are lacking.

Markets are in a state of constant flux. Over three millions of people are born in the United States every year. Therefore, upwards of 30 million new people enter the marketing picture every ten years. Markets are composed of human beings whose habits, attitudes, and desires are subject to constant change. Furthermore, it is one of the prime purposes of many engaged in marketing to keep the public constantly dissatisfied with its habitual method of living and to develop new desires.

In view of these conditions, broad, general, scientific principles have only limited application in the field of marketing. Their application must be made in the light of exceptions and unusual circumstances which are nearly always present. Most marketing problems are peculiar to the particular conditions of time and space which

surround the problem. Marketing management can therefore be scientific for the most part only in so far as it employs scientific methods to solve individual problems, rather than by attempting to solve them on the basis of established laws or principles. Since general principles are so difficult to apply in this field, marketing research methods are of primary importance.

**Potential Development of Marketing Principles.**—By means of marketing and distribution research, however, it is possible to develop principles and generalizations which are based upon facts, rather than upon casual observation or individual experiences. Although the application of general principles of marketing is now very restricted, progress in the field will in a sense be measured largely by the extent to which workable basic principles can be developed. These principles may be developed on the basis of hunch, guesswork, isolated cases, or the experience of individuals and groups of individuals. Principles developed on any of these bases must of necessity be frequently unsound and far from scientific. On the other hand, many of the basic generalizations or principles of marketing which develop in the future will be the cumulative results of different marketing researches. Principles developed on the basis of facts will have a true scientific foundation and therefore be much more valuable.

**Increased Size and Complexity of Modern Business.**—The tendency to large-scale production, with the widening of the physical distance between the manufacturer and the consumer, has probably been the chief single factor which has brought about the large increase in marketing research in recent years. A century ago the typical business unit was the one-man shop. Under these conditions there was no need for market analysis techniques because the producer was constantly in touch with the consumer. Even during the early growth in the size of business units, there was no great gulf between producer and consumer. With the development of specialized marketing agencies and of specialization within the manufacturing organization itself, however, a tendency for manufacturers to be out of touch with their markets appeared. Consumers bought from retailers, who in turn bought from wholesalers, who often dealt with the manufacturer through other intermediaries. Each of these units tended to erect a sort of dam which blocked the backward flow of the consumer's needs and desires to the manufacturer.

With the current tendency toward integration, the manufacturer is nominally brought more directly in contact with the consumer, but size and specialization within the business unit may separate



the consumer from the directing heads of the business even more than the intervention of middlemen. Within the firm itself, the engineering, production, finance, sales, and advertising departments are often set off rigidly from one another. The result is that unless some definite effort to keep in touch with the market through research is pursued, the firm is likely to find policies dangerously out of tune with the market.

The principle that the consumer is the ultimate objective of all business enterprise, that business must be directed fundamentally toward the most efficient satisfaction of the needs and desires of consumers, has long been recognized in a theoretical way by economists and businessmen. Just as the economist has generally glossed over the subject of the economics of consumption, the businessman has permitted himself to become embroiled in immediate problems of production, finance, and the details of operation.

The interests of society, industrial groups, and the individual business enterprise demand more effective and less costly methods of marketing. Both the general public and businessmen have come to realize that a large share of the gains accomplished through efficient production has been lost through expensive and wasteful marketing methods.

Today there are few businessmen who do not constantly seek an opportunity to replace guesswork with a knowledge of the market which is based upon facts. The following statement by a prominent industrial leader expresses a point of view which has rapidly been spreading through business management.

As a result of large-scale operations and world-wide distribution, producer and consumer have become more and more widely separated, so that the matter of keeping a business sensitively in tune with the requirements of the ultimate consumer becomes a matter of increasing importance.

Through Consumer Research, General Motors aims to bridge this gap and provide guidance not only with reference to details of design but as regards public relations, advertising, sales, service—in fact, everything affecting our customer relations, directly and indirectly.

To discuss Consumer Research as a functional activity would give an erroneous impression. In its broad implications it is more in the nature of an *OPERATING PHILOSOPHY*, which, to be fully effective, must extend through all phases of a business—weighing every action from the standpoint of how it affects the goodwill of the institution, recognizing that the quickest way to profits—and the permanent assurance of such profits—is to serve the customer in ways in which the customer wants to be served.<sup>23</sup>

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<sup>23</sup> Alfred P. Sloan, at the time President of the General Motors Corporation, in a letter to stockholders, September 11, 1933.

## CHAPTER 2

### ORGANIZATION OF MARKETING AND DISTRIBUTION RESEARCH

In order to meet the growing demands of American industry for marketing research, an extensive and clearly defined organization of this field has emerged during the past quarter century. This general structure is basically sound because it has grown in response to specific needs as they have developed. However, as a result of its rapid expansion, serious problems of organization, both between and within various units engaging in marketing research, have begun to arise. As a result, considerable attention is now being devoted to matters of staff, procedures, activities, and relations between different firms. Furthermore, a considerable expansion in facilities will be required to keep pace with demands, and there will consequently be a growing need for more competent organizations and personnel.

There are two broad aspects in the organization of marketing and distribution research. First, there are the *users* of research, those firms which put the findings into action for the purpose of improving their marketing activities. Second, there are the various units which actually *conduct* marketing research. While an individual business firm is often both a user and conductor, the two aspects are discussed separately in this chapter in order to clarify the relations between various elements in the broad marketing research structure.

#### Who Uses Marketing Research?

Many individual business firms do not employ marketing research in any organized fashion. However, its use has now spread throughout the economy so generally that there is scarcely any industrial or social activity in which its application will not be found. Certain classes of users account for the bulk of the volume, and a brief enumeration of these types will help clarify the scope of marketing research today.

**1. Manufacturers of Consumers' Goods.**—National manufacturers of products designed for the individual ultimate consumer, in such form that they can be used by him without further commercial processing, are the most important single class of users of marketing and distribution research. As a result of the complexity of their marketing problems, almost all producers of packaged food products, soaps, household appliances, and similar products make extensive use of this new management tool.

**2. Manufacturers of Industrial Products.**—For many years manufacturers of goods used in producing other goods hesitated to use marketing research extensively. This hesitancy arose chiefly because of the large share of sales made direct, without any middlemen, and because of large unit sales, the relatively small number of customers, and the close personal contact between buyer and seller. In recent years, however, manufacturers of industrial goods have employed marketing research in ever-increasing volume as opportunities to eliminate marketing wastes and to increase sales volume have been discovered through research. Today these manufacturers constitute the largest single numerical group of users.

**3. Wholesalers.**—During the period when channels of distribution were shifting so rapidly that the wholesaler was fighting for his very existence, there was little inclination to employ the modern tool of marketing research in this field. As the emphasis shifted to more efficient performance of the wholesaling function, however, leading wholesale firms in various lines came to rely more and more on marketing research techniques. The field offers fertile opportunities, particularly in internal analysis, in defining territories, in controlling dealer operations, and in increasing the efficiency of warehousing and transporting goods.

**4. Retailers.**—The pioneering work in the use of marketing research by retail establishments has largely been done by the chain-store systems, possibly because of their decentralized operations and because they have found through experience that marketing research can play a vital role in the solution of such crucial problems as store location. The department stores have not developed the use of marketing research as extensively as many expected they would, in view of their obvious opportunities to do so. This may be explained in part by the emphasis placed on extremely complex systems of internal accounting controls and on personal merchandising skills. The Conference Board study comments, "The scarcity of organized

market research in the field of department store retailing was noticeable in the course of this study."<sup>1</sup>

Various types of retailing organizations are becoming increasingly aware of the broader implications of marketing research, and are employing it more and more extensively, particularly in connection with defining retail trading areas, store location, varieties of merchandise handled, selling policies, and advertising.

**5. Service Organizations.**—Marketing research techniques are not limited in their application to the marketing of physical products. Those firms which purvey services find that its principles are fully applicable to their marketing problems. Insurance companies, hotels, restaurants, and utilities are examples of active users. For many years the Life Insurance Sales Research Bureau has been analyzing regional statistics to develop market potentials. Studies of consumer opinion, surveys of agents, estimates of uncovered insurable risks, opinion polls on management policies and on distribution methods are other forms of marketing research applied in this field.<sup>2</sup> Public utilities have made surveys of customers, and in some cases have made detailed studies of the markets they serve which are of value to research workers in many fields.<sup>3</sup>

**6. Advertising Agencies.**—Advertising agencies are important users of marketing research and are largely responsible for pioneering the acceptance of this tool. Agencies now universally recognize the fact that they cannot effectively plan and conduct the advertising of their clients, which often runs into millions of dollars, without the extensive use of research. Many agencies, in addition to conducting research in connection with a particular advertising campaign, also make broader marketing studies for their clients.

**7. Channels of Communication.**—Magazines, newspapers, radio stations, and other channels of communication are extensive users of marketing research. They employ its techniques in two general ways: (1) for editorial research designed to study the reading or listening audience in order to provide a scientific foundation for editorial policy; and (2) for promotional research, which embraces studies of circulations, audiences, and markets to provide information for advertisers using the medium. The promotional use of

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<sup>1</sup> National Industrial Conference Board, *Organization for Market Research*, Studies in Business Policy No. 12, 1945, pp. 18-19.

<sup>2</sup> See Frank Lang, "Insurance Research," *Journal of Marketing*, July, 1947, pp. 66-71.

<sup>3</sup> *Consolidated Edison Survey of the New York City Market*, Consolidated Edison Company of New York, Inc., 1945.

research has been a great stimulus in arousing others to the importance of marketing research.

**8. Trade Associations.**—Associations of manufacturers and other business groups are important users of marketing research. While many of these associations were originally formed to promote the general welfare of industry members in governmental relations, labor policies, price policies, and industry promotion, an increasing number are sponsoring market studies. Examples include such varied fields as those served by the National Electrical Manufacturers Association, the National Furniture Association, and the National Institute of Diaper Services.

**9. Cooperative Associations.**—Both producer cooperative organizations and consumer cooperatives now employ marketing research extensively. The producer cooperative is in the same position as the national manufacturer. The California Fruit Growers Association, the Walnut Growers, and several others were quick to sense the importance of scientific marketing studies. The consumer cooperatives, such as farmers' purchasing associations and cooperative stores, have learned that they are essentially in the same position as the regular wholesaler and retailer; therefore, these groups are making extensive use of marketing research.<sup>4</sup>

**10. Governmental and Other Public Agencies.**—The United States Government has been for years the outstanding statistical organization in this country. In recent years more and more of its branches have borrowed the techniques of marketing research in making surveys to guide their operations, as well as in making marketing studies for the general use of business firms. State and local governments also employ the techniques of marketing research as a basis for determining public policy.<sup>5</sup> Welfare agencies, educational institutions, and philanthropic groups are making increasing use of marketing research techniques. Opinion studies and consumer surveys are among the most common forms used by this class.

While each of these several types of organizations faces problems which differ in character, the basic marketing and distribution techniques employed to solve their problems are essentially the same. Such minor variations as are required are well known to the quali-

<sup>4</sup> See, for example, Martin A. Abrahamsen, "Establishment of Business Research Programs, with Special Reference to Farmers' Regional Purchasing Associations," *Journal of Marketing*, January, 1948, pp. 348-361.

<sup>5</sup> See Samuel P. Hayes, Jr., "Commercial Surveys as an Aid in the Determination of Public Policy: A Case Study," *Journal of Marketing*, April, 1948, pp. 475-482; and Richardson Wood, "Market Research and Industrial Development," *ibid.*, pp. 503-504. See also R. G. Bressler, Jr., and Alan MacLeod, "Connecticut Studies Milk Delivery," *Journal of Marketing*, October, 1947, pp. 211-219.

fied practitioner, and necessary adaptations are readily made in the light of the specific purposes of a given research and the special requirements of the environment in which it is conducted.

### Who Does Marketing Research?

There are six principal types of organizations conducting marketing and distribution research, some for their own use, others for the use of clients and industry in general. Each type has its particular part to play, its own peculiar position in relation to various users, and its advantages and limitations in the conduct of various kinds of research.

In the discussion which follows, the advantages and limitations of each type of organization conducting marketing research are presented, largely in order that the reader may see the conditions under which each operates most effectively. It should be constantly borne in mind, however, that there is no general inherent advantage possessed by any one type. Neither is there any inherent weakness which precludes the possibility that any one type of organization may not do just as competent research as any other. The standards and facilities of each individual organization, rather than the type in which it happens to fall, are the controlling factors determining the quality of research done.

The six principal types of organizations conducting marketing and distribution research are:

1. The Individual Company (which also uses the marketing research).
2. Independent Consultants.
3. Syndicated Services.
4. Advertising Agencies.
5. Advertising Media.
6. Associations and Public Agencies.

**1. The Individual Company.**—The primary organization in marketing research is the business firm itself: the manufacturer, wholesaler, retailer, or service company which is to use its results. Some organizations have rather elaborate departments with annual budgets running from \$200,000 to \$1,000,000. Such extensive organization is limited to the larger companies, however, and many firms do not have a separate department.

Regardless of the extent to which a firm maintains physical research equipment, it is the hub of all marketing research work.

While it may rely on outside organizations for all of the actual investigation, the transfer of the findings of research into operations occurs within the company. Even though there is no separate department, every organization should have one major executive who is more or less expert in this field to be responsible for the general direction of planning, supervision, and interpretation of marketing research.

**FUNCTIONS OF THE DEPARTMENT.**—The specific types of marketing research conducted by a department in the firm using the research will, of course, vary greatly in accordance with the requirements of the particular business. Studies of departmental activity, however, show that quantitative analysis, product research, and studies of product demand are most common. One survey shows the following functions:<sup>6</sup>

MOST IMPORTANT FUNCTIONS OF THE  
MARKET RESEARCH DEPARTMENT

(In order of importance)

154 Companies

- New product development (non-engineering)
- Analysis of consumer market (including industrial)
- Estimating potential sales (general)
- Competitive position of company's products
- Sales methods and distribution policy
- Customer preferences
- Market analysis by areas
- Competitive conditions in markets
- Improvement of present products
- New uses for old products
- Relative profitableness of markets
- Estimating demand for new products
- Market analysis by customer
- Distribution costs
- Sales methods or devices

**POSITION AND QUALIFICATIONS OF THE PERSON IN CHARGE.**—The all-important factor in organizing market research is to place a person with proper qualifications in charge of it. He must have an unusual combination of practical and theoretical talents. On the practical side he must be a good liaison man and salesman who can talk the language of the other departments and keep them enthusias-

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<sup>6</sup> *Organization for Market Research*, p. 5.

tic about the work. He must have the imagination to present the work of his department vividly and pictorially. On the theoretical side he must know methods—not so much the mechanics as the philosophy and use of them. He must be constantly researching research itself, looking for new and better methods. He must, of course, be thoroughly familiar with the business in which his firm is engaged. In the meat-packing industry, for example, there are countless well-established policies and practices with which he must reckon. The industry has special problems of pricing, so the analyst must be familiar with the executive thinking on this subject which is peculiar to the field.

The person who is responsible for marketing research should be either a key executive in the organization or in direct and constant contact with those actively directing the affairs of the company. Much otherwise good marketing research is barren of productive results because the person in charge does not rank high enough in the personnel of the company. Marketing research is one of the most fundamental business activities, and its operation should be kept close to the directing heads of the company.

It has frequently been reiterated that a program of marketing research has a much better chance to produce good results if the individual in charge of the function is of high calibre, has definite standing in the organization, and enjoys strong executive sponsorship. Obviously, *a carefully selected, adequately compensated executive is in a more favorable position to gain the respect of other department heads than one of uncertain rank who has only the half-hearted backing of management.*<sup>7</sup>

PLACE OF THE MARKETING RESEARCH DEPARTMENT.—The marketing research department should be separate from others and responsible directly to the head of the business or to a general executive whose authority is not limited to a few departments. Sometimes it is made part of the industrial engineering department or planning division. While the research department should work constantly in harmony with this division, its work will be done better if it operates separately. Some firms maintain extensive statistical departments. In many cases they are really market analysis departments, but where a large volume of detail statistical work is carried on, it is better not to bury creative marketing research. Since most firms have separate sales and advertising departments, it is best not to set up the marketing research work in either, as placing

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<sup>7</sup> American Management Association, *A Company Guide to Marketing Research*, Research Report No. 5, 1944, pp. 19–20.



it in one of these departments may make it a side issue or embroil it in interdepartmental politics. Harmonious relation with all other departments is essential.

That management is coming to recognize the importance of giving more independence to the marketing research department and having its head report to general management is shown by the following results of a recent survey:<sup>8</sup>

TABLE 1

Executive to Whom Marketing Research Head Reports	Percentage of Companies with Marketing Research Dept.
Head of the company (president, board of directors, partner) . . . .	33.6
Vice presidential level . . . . .	32.3
More than one of above . . . . .	11.7
Selling department managers (sales, advertising, etc.) . . . . .	15.5
Financial department managers (treasurer, secretary, computing department) . . . . .	2.1
Committee and others . . . . .	1.7
No answer . . . . .	3.1
Total . . . . .	100.0

A marketing research department should be in a position to exercise considerable initiative in the type of work which it does.

If a company is to get the maximum value out of market research, the function must not be limited to the making of specific surveys at the request of company executives. It should be made responsible for periodic checking of consumer reactions to products, packages, prices, advertising and sales methods, in order to be able to anticipate problems before they get to the stage where they seriously affect sales volume and profits. Market research should not be considered a defensive weapon only. Some of its most valuable contributions can come from the discovery of ways to make products or packages more acceptable or to make advertising more productive. Such discoveries come only from comprehensively exploring the whole range of consumer relations.

So there should be some provision in the organization setup for giving full scope to initiative in market research. The function must be close to top management, so that it can be directed along productive lines, with due recognition of the policies and problems of top management and the operating departments.<sup>9</sup>

<sup>8</sup> Heusner *et al.*, "Marketing Research in American Industry: I," *Journal of Marketing*, April, 1947, p. 348.

<sup>9</sup> Robert F. Elder, "Why Market Research Should Be a Major Management Function," *Printers' Ink*, May 31, 1946, p. 58.

ORGANIZATION OF THE DEPARTMENT.—The company may be of sufficient size to warrant the full-time employment of a considerable staff. The 1947 survey conducted by the American Marketing Association lists the following factors as governing the size of the department: <sup>10</sup>

1. The number of actual marketing research functions it performs.
2. The amount of routine work assigned to the department.
3. The amount of statistical accounting done by the department; i.e., customer sales analysis, area or geographic distributions of sales, sales by item, sales cost distribution, etc.
4. The use of company service departments such as stenographic and computation pools and tabulating departments.
5. The promotional uses made of marketing research findings and other promotional activities assigned the department.
6. The degree of centralization of marketing research activities prevailing in the organization.

The same survey shows that the average marketing research department consists of four persons. Distribution by size of department is as follows: <sup>11</sup>

TABLE 2

Number of Employees in Marketing Research Dept.	Number of Companies	Per Cent
1-2 .....	283	52.5
3-5 .....	121	22.4
6-8 .....	37	6.9
9-12 .....	24	4.5
13-15 .....	4	0.7
16-20 .....	7	1.3
Over 20 .....	10	1.9
No answer .....	53	9.8
Total .....	539	100.0

With the exception of a few very large organizations, a big department is uneconomical. Too often firms get the "research fever," set up a big department, and then discontinue it in a wave of economy. It is much better to employ one good man who understands the field thoroughly, and rely on outside sources. To be really effective, marketing research must be a continuous activity which is welded into the regular activities of the organization.

<sup>10</sup> Heusner *et al.*, *op. cit.*, p. 353.

<sup>11</sup> *Ibid.*

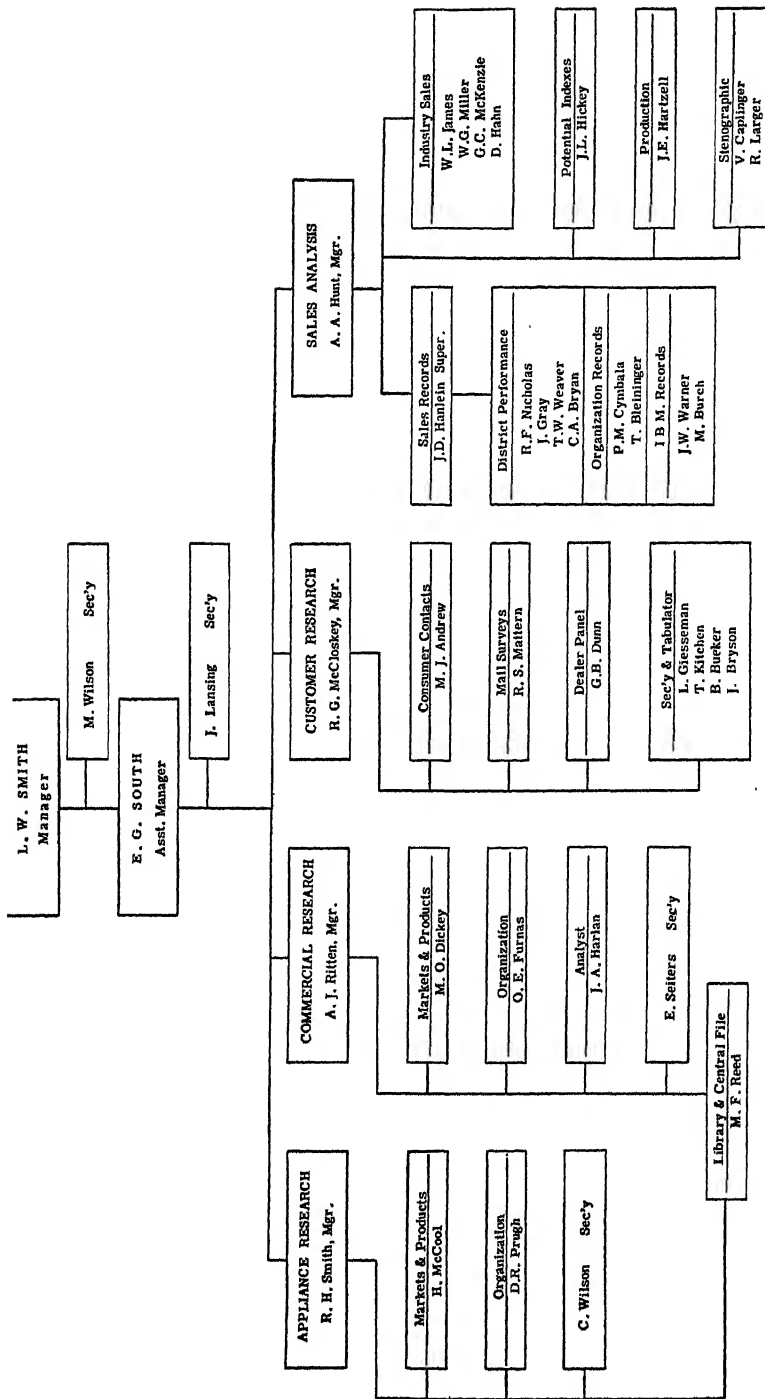


Figure 2. Organization Chart of a Marketing Research Department  
(Courtesy L. W. Smith, Frigidaire Division of General Motors Corporation)

Where an extensive department is planned, the head of the department should have two key assistants—a statistician and a librarian. The reason for a special statistician is that one can find a person who is especially capable of handling detailed statistical work, without having to find in the same person the complementary skills required in working with other executives and interpreting results into policy. The librarian also represents a trained specialist in the gathering and classifying of available materials, and can also serve as a general assistant.

The firm may be large enough to warrant the full-time employment of field investigators, but only if it is very large and engages regularly in extensive field research. These persons should be regarded primarily as supervisors, to act as crew managers for part-time investigators and to check on the field work of outside organizations.

Some persons recommend that the marketing research department have specialists in psychology, a skilled draftsman to produce artistic reports, special stenographers, and correspondents. In most cases such a policy leads to overloading the personnel of the department and much lost time. It is also usually an error to burden the department with too much equipment. A reasonable amount of filing equipment and a calculating machine will meet most requirements. If a tabulating machine is available in some other department, no further machinery is necessary.

The following examples show the number and type of employees in several typical marketing research departments:<sup>12</sup>

A. *Manufacturer of Food*

Director of Market Research

2 Analysts

3 Statisticians

Librarian

2 Tabulators

Chartist

Secretary

Typist

Comptometer Operator

B. *Manufacturer of Plastic Materials*

Director of Market Research

2 Analysts

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<sup>12</sup> *A Company Guide to Marketing Research*, pp. 16–18. For further examples, many of them identified by company, see National Industrial Conference Board Study, *Organization for Market Research*, Part I, 1945, and Part II, 1946.

Statistician

Librarian

C. *Manufacturer of Soap*

Research Director

Assistant Director

Assistant to Director

11 Analysts

Interviewer

Field Investigator

Librarian

5 Machine Operators

5 Secretaries and Stenographers

3 Clerical Personnel

It must be remembered that the qualifications of research personnel are always more important than the organization. The guiding factors in building an organization are the research requirements of the company and the personal skills and characteristics of the director of research.

An important consideration in organizing the department is to have a definite operating budget which will at all times provide for future needs. Good research takes time and costs money. Its dollars-and-cents return is often unmeasurable. If one is forced to work from hand to mouth, he will eventually find that his work is curtailed by someone who sees an easy chance to save money. It is better to have a small but definite budget than to work in constant fear that too much is being spent and to be forced to justify costs from day to day. Above all, the support and evaluation of a research organization must be considered over a relatively long term and not, as in the case of production, sales, and profits, over the short-term period of the annual budget and the president's report.<sup>13</sup>

In summary, the individual firm which uses its findings is the heart of marketing research work. As in other branches of the business, outside sources are looked to for facilities and consultation. The inherent advantages of research conducted by the firm itself are the continuity of operation and the internal knowledge of the firm and its field of operations. Its common disadvantages are high costs, restricted experience in research, limited facilities, and the lack of an outside point of view. These disadvantages may be offset by restricting the size of the department, by the liberal use of outside sources, and by frequent consultation.

<sup>13</sup> See Karl T. Compton, "Organization for Research," Eighteenth Boston Conference on Distribution, 1946, pp. 81-82.

**2. Independent Consultants.**—There are numerous organizations which specialize in conducting marketing research on a fee basis for manufacturers, advertising agencies, and other users. These specialized organizations render chiefly two basic services: (1) they advise in the planning, interpretation, and application of marketing research, and (2) they provide the physical facilities for conducting various parts of the work, such as the field investigations and the tabulation and analysis.

The chief advantages of these organizations are the caliber of their principals, the experience which they have obtained through making different studies for many clients, adequate mechanical facilities, and an unbiased, outside point of view. They are usually headed by persons who have broad experience in the field of marketing research and can render valuable advice in the planning and interpretation of the analysis. While the fees which they charge sometimes appear large, the actual cost is usually lower than the expense which is involved in maintaining an extensive staff in the average individual company.

The disadvantages of organizations specializing in marketing research are their lack of intimate knowledge of the internal problems of a business and the superficial character of the work which is done by some of the weaker organizations. The lack of a detailed knowledge of the internal problems of the business is not necessarily a real handicap, since management can provide this ingredient.

It is very difficult to estimate in advance the exact cost of a marketing research, particularly one which involves extensive field work. Unfortunately, many clients, in an effort to reduce costs, demand that a flat fee be set before giving the work to the consulting firm. In such cases the firm must include a rather large cushion to take care of unanticipated expenses and to make up for unexpected losses which may be incurred in certain operations. If the prospective client shops around in an effort to obtain the lowest possible price, it is inevitable that he will eventually find a firm which will accept the work at a low fee and will then cut corners in order to make expenses. The result is that the user of the research in the long run obtains superficial work, sometimes to the point of actually getting erroneous and misleading results.

This pressure to obtain low costs and the tendency to shop around are characteristics of a new field which has not yet attained full professional status. As marketing research matures, in the sense in which the legal and accounting professions have matured, the common practice will undoubtedly be for users of research to rely upon

a limited number of well-equipped independent marketing research counselors for those services required from an outside source.

Under no circumstances should the user of research allow himself to be the potential victim of a situation in which his outside source is working under the handicap of an inadequate budget or too great a time pressure. The research director who sets the standards of cheap and speedy research is failing in his primary obligation—to obtain for his management the best scientific solution to its most significant marketing problems. One of the most generally established principles of research in all fields—physical or social—is that good research takes both money and time.

The best marketing research usually results from a combination of a competent research director within the organization using the research and a competent outside organization. The importance of the skill of the research director in making the most effective use of outside facilities is emphasized in the following statement:

A number of other respondents relying heavily on outside research organizations indicate the necessity of having at least one individual in the company functionally responsible for correlating the findings and for assisting in their utilization as a basis for company policies and procedures.

One manufacturer says in this connection:

"Our Market Research Division acts as liaison between the operating division with the problem and the outside research organization equipped to give the soundest answer. Results are more objective, and we are thus able to have the best people in research."

It should be reiterated that outside organizations can perform, and have performed, an important service for industry in the field of marketing research. The value of this service to any one company depends on the discrimination with which the research organization, agency or private consultant is selected, and the skill with which the findings are interpreted and utilized in the company. By far the best use of outside organizations involves integration of their work with that of the company's own permanent organization.<sup>14</sup>

**3. Syndicated Services.**—One significant factor in the growth of marketing and distribution research has been the development of a number of syndicated services which gather standardized marketing facts on a continuous basis and present them periodically to various clients. In the sense of research which is planned and executed in order to solve the specific problems of an individual firm, the information supplied by these services is limited, as they are primarily fact-gathering agencies. The better organizations, however, make every effort to interpret the facts which they present in the light of

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<sup>14</sup> *A Company Guide to Marketing Research*, pp. 29–30.

the conditions faced by an individual client, and they provide a vast fund of vital information for management.

An important form of syndicated service is the *store audit*. This service reports the flow of competitive products through retail channels of trade on the basis of bimonthly store audits. The report includes a wide range of food and drug products and shows purchases by a sample of retailers, sales to consumers, inventories, prices, and related information by individual brands, package sizes, etc. This information is available on a national scale. Local store auditing services for individual markets are also maintained by several organizations.<sup>15</sup>

A second important form of syndicated service is the *consumer panel*, which reports general consumer purchases by brands. This service is based on diaries which are kept by families scattered throughout the country. The housewife records purchases of a number of products, showing the amount purchased, brands, source of purchase and other related information. In return for prizes and premiums, the housewife fills out the monthly diary and mails it to a central office where the data are analyzed.<sup>16</sup>

Both the store audit and the consumer panel provide important and useful marketing information. Since they both report competitive sales by individual brands and the facts presented do not always agree, there is considerable controversy as to the relative merits of each method. The store audit has these advantages: it is based on physical auditing of records by trained observers and it obtains merchandising information which cannot be furnished by the consumer panel. The consumer panel has these advantages: it obtains buying information regardless of the retail source, and it provides analysis data on consumers, such as economic class, which are unavailable through store audits. In spite of the current controversy, it is clear that the two services are complementary and that the company which uses both types of information is most fully served.

A number of syndicated services operate in the advertising field. One of the oldest reports the percentage of magazine and newspaper readers who see and read various advertisements. Prominent in the radio field are services which measure the size of the radio audience by telephone interview, by roster-recall, or by mechanical recorders which report programs to which radio sets are tuned. Other information used in advertising studies includes reports of advertising expenditures and advertising circulations.

<sup>15</sup> See p. 63 ff.

<sup>16</sup> See p. 302 ff.



A list of syndicated services now operating will be found in the section which discusses the gathering of secondary data. (Page 400.)

**4. Advertising Agencies.**—It has been said that the advertising agencies have been the pioneers in the development of market analysis work in the United States. As the services rendered by agencies to their clients expanded beyond the purchase of space and preparation of advertising copy, they became more actively concerned with the general planning of the selling and advertising campaigns of their clients. Several of them established research departments and found that clients appreciated the new service. Advertising agencies have thus become increasingly important sources of marketing research, and the larger organizations today maintain extensive research departments.

The chief advantages of advertising agency research lie in the ability of the agency to conduct special types of advertising research and sometimes to provide, as a matter of service, other types of research at low cost to the client. The advertising agency has a background and an experience which make it especially well qualified to conduct those phases of research—such as testing advertisements, media, and merchandising research—which are closely associated with advertising. The disadvantages are the possible bias of the agency, the technical limitations of the research staff, a tendency to do superficial work at times, and the speed with which advertising agency work is usually conducted.

Since advertising agencies obtain the bulk of their income from a commission on the amount of money spent for the client in advertising media, there may be a tendency to attempt to make the expenditures as large as possible. Whether this bias is actually present in any given case depends entirely on the research policy of the agency and its relationship with the client. If the agency has the full confidence of the client and an ethical management, this bias need not be present in research it conducts.

As much advertising agency research is conducted as a free service to clients, there undoubtedly has been a tendency on the part of some agencies to employ research primarily as a window-dressing tool. This naturally leads to superficial work which is conducted primarily to impress the client rather than in the interest of sound marketing research. Fortunately, as clients become better informed, the amount of superficial advertising agency research is rapidly declining.

The general tempo of an advertising agency is very fast, and the management usually expects that the work of the research division

should be conducted at the same speed as that of other functions. This point of view sometimes leads to unfortunate results because of the need for time in good research.

The increasing practice of charging a fee to clients for research conducted in their interest has done a great deal to improve the quality of agency research work. Increased emphasis on advertising research *per se* has also contributed. The attraction of superior personnel has placed a number of advertising agencies in a position to do outstanding marketing research.

**5. Advertising Media.**—Publications and other media engage in extensive research activities primarily as a means of increasing their advertising revenue. The most common forms of research by advertising media are studies which break down the market reached, show the extent of duplication, check reader interest, and analyze circulations. Data from these surveys are often valuable guides in marketing policy. Publications also often prepare rather extensive analyses of the markets for individual products.

It is difficult to evaluate adequately the marketing research of media. Like the work carried on by some advertising agencies, much of it suffers from a definite bias. On the other hand, the studies are useful, and many are conducted most scientifically and impartially. This work is furnished to advertisers and their agencies gratis, and accordingly is sometimes superficial. The specialized knowledge of the market which each medium covers is one of its chief advantages. The trade contacts which publications have established should not be overlooked as a valuable source of information for any specific study. As in the case of advertising agencies, there is wide variation in the quality of research done by advertising media. The chief governing elements are the quality of the research personnel and the standards set by management.

Many advertising media, unfortunately, have their research departments as part of their promotion or sales department. This leads to obvious pressures and bias which severely limit the value of the research conducted, as the effort to sell the particular medium is bound to influence the research, either openly or by implication. Better media are recognizing the importance of a separate research department which reports directly to a general policy-forming executive. By this practice much of the danger of bias is removed and the research department can become a service unit to management and to various departments of the medium, as well as to customers.<sup>17</sup>

<sup>17</sup> See Vergil D. Reed, "Promotion and Research," *Journal of Marketing*, January, 1947, pp. 367-370.

**6. Associations and Public Agencies.**—In studying the general market for a product, trade associations may be an important source of market research. Most of them are organized for some particular purpose, such as public relations, protecting patents, checking government intervention, promoting public acceptance of a product, and lowering costs. These associations have an unusual opportunity to serve their members by engaging in extensive marketing researches which are beyond the means of individual firms. Here the combined experience of members can be centered and industry statistics can be concentrated.

The extensive development of marketing research by trade associations is indicated by a recent survey made by the U. S. Department of Commerce. This study showed that of the 2,000 national and regional trade associations, 31 per cent carried on some form of marketing research activities. An analysis of the current research activities of seventy-five associations which cooperated in the study showed that their activities embraced product research, consumer research, market analysis, and research relating to marketing functions, policies, and costs. The Department of Commerce, in commenting on the results of its survey, states, "As the transition from the strong sellers' market of the war and early post-war periods to a buyer's market becomes increasingly evident, more and more emphasis is being placed on marketing research."<sup>18</sup>

The trade association often provides facilities for carrying on a continuous research service for its members, particularly in the matter of pooling marketing data. Outside research organizations are frequently employed by the associations to make the larger, more basic studies of markets for the products of the industry and of the more significant problems common to various individual firms within the industry.

Examples of studies sponsored by trade associations in recent years are the following:

1. Gray Iron Founders Society—a study of the principal markets for products of the industry and the extent of market areas served by the industry.
2. International Association of Ice Cream Manufacturers—an annual survey of production and distribution.
3. National Association of Independent Tire Dealers—a study to determine the kinds of merchandise and services sold by independent tire dealers.

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<sup>18</sup> See Theodore K. Pasma, *Trade Association Opportunities in Marketing Research*, U. S. Department of Commerce, Industrial Series No. 78, 1948.

4. Cotton Textile Institute—studies designed to discover new outlets for cotton products.
5. Wholesale Dry Goods Institute—a study of distribution practices, plans, and preferences of dry-goods retailers, wholesalers, and manufacturers.
6. National Shoe Manufacturers Association—consumer research.

A wide variety of types of associations engage in marketing research. Fields represented include manufacturing, wholesaling, retailing, finance, insurance, real estate, transportation, construction, and mining.

Governmental agencies are indispensable sources of general statistical data which may be used in marketing research, and have recently extended these activities. The individual firm could not hope to duplicate their fact-gathering facilities. They have legal authority and funds to gather data, and usually their reports are unbiased. Their chief weakness is that their information is often too general and hence applicable to only a limited number of problems.

Universities and foundations conduct many studies which are useful. Their chief advantage is that they are usually conducted without bias by men of real scientific caliber. The weakness of these studies is that they are often too generalized to be adapted to the needs of the individual firm.

From the point of view of the researcher, the broad studies made by trade associations, governmental agencies, and universities and foundations are regarded chiefly as sources for secondary data to be incorporated in specific analyses. These sources are indispensable in the general structure of marketing research, and many of these studies have contributed greatly to the improvement of research methods.

## CHAPTER 3

### TYPES OF MARKETING RESEARCH; PRODUCT AND PACKAGE RESEARCH

#### Types of Marketing Research

The importance of marketing and distribution research in modern business activities is indicated by the many branches of this field which have developed in recent years. There are thirteen specific types of research which represent specialized applications of the scientific method in marketing. Each of them is widely used, each makes its particular contribution to better marketing management, and each presents special problems in method.

**1. Product and Package Research.**—This field embraces all applications of marketing research techniques designed to develop new products or to adapt old ones so that they will have maximum acceptability to the user. Technical laboratory research emphasizes lowered costs of production and efficiency in functional performance. Marketing product research emphasizes the development of those product characteristics—size, shape, color, packaging, and ease of use—which enhance its value to the user. This latter type of product analysis has been applied to items ranging from heavy industrial equipment to dentifrices and to services as well. Business has learned that even minor changes in specifications must be checked with the user before producing new or changed products.

**2. Brand Position Analysis.**—A major use of marketing research from the point of view of the amount of money invested is the current or periodic study of the competitive standing of various brands in a product field. Data for a large number of product classes are now available through syndicated services for the entire country on a monthly or bimonthly basis. Studies of brand usage, preference, and identification also fall in this field.

**3. Consumer Surveys.**—The best-known and probably most universal application of marketing research is in the field of consumer surveys. These studies are designed to define the users of products

(generally by such classification data as age, sex, economic status); to identify buyers or individuals influencing brand selection and specification; and to determine how products are used, units of purchase, reasons for use, consumer attitudes and experiences.

**4. Industrial and Institutional Marketing Research.**—The market for products consumed by industry in the manufacture of other products has several characteristics different from those of the consumer-goods market. The institutional market, made up of large buyers such as hotels and public institutions, also differs in nature from the market for consumer goods, and is essentially like that for industrial products. The most significant special characteristics of the industrial and institutional markets are the relatively small number of buyers, the large proportion of the market accounted for by comparatively few buying organizations in each field, the wide variation in character of the various buying factors, the high proportion of direct selling, and the general complexity of the marketing problem. As a result of these conditions, it is necessary to adapt the general principles of marketing research to the peculiar requirements of the industrial and institutional fields. Because of the size of these markets, research in these areas constitutes one of the most important forms of marketing and distribution analysis.

**5. Sales Organization and Operation Research.**—The application of marketing and distribution research techniques to the selling activities of a business organization may range from a basic survey which may result in wholesale revamping of personnel, policies, and procedures to specialized studies designed to solve limited and specific sales problems. The observational approach is generally most productive in this area, one of the most effective types of studies being the time and duty analysis of sales activities, which points out wastes in sales efforts and failures to concentrate on most effective procedures. Studies of methods of compensating sales personnel and studies of sales training methods are also common applications of sales organization and operation research.

**6. Sales Record Analysis.**—This form of internal analysis uses the accounting records of sales as a foundation for solving a variety of specific marketing problems. From a comparison of sales results analyzed by product line or individual items, by territories, by class of trade, by individual salesmen, and by other units into which the gross data on sales for various time periods may be broken, it is possible to develop volume performance and cost or profit ratios

which reveal opportunities for significant improvement in marketing efficiency. More and more companies record current sales transactions on machine tabulation cards to facilitate such analysis.

**7. Wholesale and Retail Distribution Analysis.**—One of the broadest applications of marketing and distribution research is in studies of the various channels of distribution, for here the largest share of marketing costs is incurred. Marketing research methods are being applied increasingly by distributors themselves, particularly by the larger wholesalers and retailers. Specific studies which illustrate the most important applications from the point of view of the manufacturer include selection of channels, selection of individual units, appraisal of dealer coverage, credit policies, exclusive franchises, operating methods of dealers, attitudes of dealers, size of stocks, dealer costs, and profits.

**8. Distribution Cost Research.**—While all marketing and distribution research has as its ultimate goal a relative reduction in distribution costs, an increasing amount of research is aimed directly at reducing the cost of distribution in specific operations. The chief methods employed are those of cost accounting analysis, in which detailed operations and specific marketing functions are assigned their share of distribution costs.

**9. Quantitative Market Analysis.**—Quantitative market analysis develops sales potentials and sales quotas by determining the amount of a commodity which a given market can be expected to absorb. In addition, comparisons of potentials and performance are made for individual territories, salesmen, and dealers in order to set boundaries of sales territories, to route salesmen, and to select territories in which to concentrate sales or advertising efforts.

**10. Opinion and Public Relations Research.**—While opinion and public relations research are popularly best known in connection with measuring public opinion on broad social and political issues, a great deal of this work lies in the field of marketing research, chiefly as a basis for public relations and advertising activities. Studies of the attitudes and opinions of the general public are only one phase of this field; studies of special groups of consumers, employees, stockholders, and management, and studies of special social groups are also important.

**11. Advertising and Sales Promotion Research.**—Advertising agencies have been among the most important organizations to apply

and develop marketing research procedures as a basis for planning and executing advertising campaigns. In addition to consumer surveys, which form the basic foundation for campaign strategy, a number of specialized techniques for copy and media research have been developed.

**12. Price Analysis.**—Price is such a fundamental economic consideration that it should receive major emphasis in marketing research. The main contribution of marketing research in this field is the measuring of specific demand at various price levels. Procedures have been developed which relate competitive sales volumes to competitive prices on a trend basis, and surveys have been made of the attitudes of consumers and distributors toward various price levels.

**13. Market Trends.**—Trend studies embrace all marketing research which analyzes change through time. The object of such studies is to observe and interpret changing conditions and to forecast future market conditions. Nearly all of the other twelve applications of marketing research discussed above are amenable to trend analysis.<sup>1</sup> One of the most obvious is the study of competitive position, which becomes most meaningful as the growth or shrinkage of markets or of a competitor's share is determined. Long-range studies of the future of markets for various commodities represent one common form of trend study. Another is the study of changes in style or fashion demands.

### Product and Package Research

Product and package research determines the preferences of consumers which should significantly affect the design or other characteristics of products and their containers. Improvements in performance, shape, color, or other specific features, as well as in the different varieties comprising the product line, make products more readily accepted by users. This particular type of marketing research has become important because management has learned that having products carefully fitted to the requirements of the market is a great stimulus to sales.

It is a marketing truism that the product must be sound to enjoy full sales success. While Emerson's homely philosophy—"That if a man builds a better mousetrap than his neighbor, the world will

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<sup>1</sup> See, for example, T. G. MacGowan, "Trends in Tire Distribution," *Journal of Marketing*, January, 1946, p. 265.



make a beaten path to his door"—has been repeatedly attacked, there is a growing appreciation on the part of businessmen that sales success begins with a product which is sound and acceptable to the market. No manufacturer wishes to penalize his activities by attempting to sell a product which will meet unnecessary market resistance.

The importance of product development from the marketing point of view has been expressed as follows:

Another factor often overlooked that may be vital to the success of our business is the changes that may have occurred in the "selling weight" of our product. You have all seen businesses in which basic product superiority has carried much of the selling load, until competitive products improved and the factor of product superiority was largely nullified. Unless management senses this change, which usually occurs rather gradually, and offsets its waning product advantages by corresponding increases in the aggressiveness and effectiveness of its selling effort, it is unlikely to hold its industry position. We must be realistic in our appraisal of this product situation and must not hesitate to admit that competitive products are catching up with us.<sup>2</sup>

The specific objectives of redesigning products have been summarized as follows:<sup>3</sup>

1. To lower costs and increase sales.
2. To overcome customer objections.
3. To develop distinctive appearance.
4. To lower manufacturing costs.
5. To secure efficiency in use.

**General Types of Product Research.**—Two phases of the broad field of product research should be differentiated: (1) technical product research, and (2) marketing product analysis. Technical product research is the type which is carried on in the research laboratory of a manufacturer where the primary aim is to develop the most efficient product at the lowest possible cost. Marketing product analysis, on the other hand, is basically a study of consumer preferences and habits relating to a given product to determine the extent to which it should be modified or changed to meet the existing demands of the consuming market or to discover new products the market desires.

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<sup>2</sup> J. B. Lathrop, "Compensation Adjustments in a Period of Uncertainty," American Management Association, Marketing Series No. 70, 1947, pp. 43-44.

<sup>3</sup> Gerald C. Johnson, "Effective Marketing Begins on the Design Board," *Journal of Marketing*, July, 1948, pp. 32-36. This article discusses the relation of the industrial designer to product research and cites several specific examples of product development.

A good example of the distinction between technical product research and marketing product analysis may be found in the General Motors Corporation. In its large research laboratories in Detroit, the testing and proving grounds, and the smaller laboratories of operating units, engineers are constantly studying the automobile and other products from the point of view of technical efficiency and cost of manufacture. The prime aim of the technical engineer is to improve the design of an automobile in order to yield more efficient transportation, and in so far as the desires of consumers are concerned, to develop an automobile with a body of sound artistic design and a means of transportation which will reduce discomfort to a minimum. Marketing product analysis is carried on in the Customer Research Division. Here the whims and fancies of the consumer, the importance of comfort as opposed to economy, and similar problems are analyzed. As a result of the work of the Customer Research Division, the designers and engineers in the technical research division develop cars which are efficient automobiles and which also satisfy the measured desires of the public. Glove compartments, the placing of the luggage compartment and the spare tires, and the exterior design of today's automobile are a result.

The distinction between the two types of product research is further illustrated in the same field by the different ways in which the technical research man and the market researcher approach the problem of streamlining. The engineer in the technical laboratory is concerned with developing a design which will offer a minimum of resistance to the air through which the automobile moves. The marketing researcher, on the other hand, is concerned with determining the degree of streamlining which is most acceptable to the consumer at the time the study is being made. The unfortunate experience of manufacturers who have attempted to introduce streamlined models too extreme for public taste demonstrates the value of adding the contribution of the marketing researcher to the work of the technical engineer in designing a product.

Sometimes the results of marketing product analysis negate the findings of technical product research. In the laboratories of a mouthwash manufacturer, a new antiseptic ingredient was discovered which was far superior to any on the market and the formula was changed to include it. However, a marketing research showed that this new ingredient had an unpleasant odor which would retard its acceptance, and that it would be folly to attempt to sell the product unless this odor could be hidden. In the case of a household appliance it was found that the mechanism would be most efficient if

## SEAT COMFORT is important

Seat comfort is one of the most important elements in travel enjoyment. Please check the box that best describes your opinion in each case. (These questions do not apply to the movable chairs in the larger accommodations.) (16)



Would you be more comfortable if the seat were higher or lower than it is now?

HIGHER ☐ 1 LOWER ☐ 2

ABOUT RIGHT AS IT IS ☐ 3

Compared to the present seat, would you rather have the seat of the future: (17)

SOFTER ☐ 1

FIRMER ☐ 2

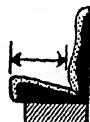
JUST AS IT IS ☐ 3

Would you change the depth of the seat?

LONGER FROM FRONT TO BACK ☐ 1

SHORTER FROM FRONT TO BACK ☐ 2

ABOUT RIGHT AS IT IS ☐ 3



Would the seat be more comfortable if it had a higher or lower back? (18)

HIGHER BACK MORE COMFORTABLE ☐ 1

LOWER BACK MORE COMFORTABLE ☐ 2

ABOUT RIGHT AS IT IS ☐ 3

Would you change the angle of the back of the seat? (20)



STRAIGHTER ☐ 1

MORE RECLINED ☐ 2

ABOUT RIGHT AS IT IS ☐ 3

How important is it to you if you cannot ride facing forward in the daytime? (21)

DOESN'T BOTHER ME ☐ 1

I'M UNCOMFORTABLE ☐ 2

Figure 3. Page from a Product Design Questionnaire

This study dealt with the design of railroad cars. Other subjects in this study included exterior design, windows, lighting, facilities for care of clothes and luggage, sleeping accommodations, air conditioning, and service features. Note the use of illustrations to increase accuracy of data. Small numbers printed on the form are pre-codes for machine tabulation. (Courtesy F. H. Baird, New York Central System)

the cabinet had legs which would allow a clearance of at least six inches between the cabinet and the floor. However, market research showed that women preferred a design which would be flush with the floor, in order that dirt would not collect easily underneath the cabinet, and it was therefore necessary to make an adjustment in design.

Usually the result of the marketing product analysis is merely to introduce modifications of the product which affect its technical efficiency only slightly, if at all. Market analysis will frequently dictate the taste and color of a product, elements which are generally immaterial from the technical point of view. Nevertheless, it is highly important that elements such as taste or color be in exact tune with the desires of users.

**Industrial Product Research.**—While many businessmen are most familiar with product research in the consumer-goods field, the application of the principles and techniques to the industrial field is rapidly growing. Because industrial products are presumably bought on the rational basis of objective standards of efficiency, the application of product research in the market to industrial products lagged for some time. Now manufacturers have seen how marketing research of industrial products has achieved these results: discovery of unsuspected sales opportunities, of unknown needs of buyers, of special features which lower sales resistance; reduction of sales costs through the elimination of unprofitable efforts; and increased profits through line simplification.

A study of electronic heating equipment, for example, obtained data on performance records in actual use—the advantages, disadvantages, and technical limitations of products—and showed the potential market for new electronic heating equipment in the molded plastic products industry.<sup>4</sup> An example of industrial product research which emphasized simplification of the product line is a study made by the General Electric Corporation. The research showed that the number of models of one product could be reduced from twenty-eight to four, including both domestic and foreign requirements and two special applications. As a result, 950 employees in 216,000 feet of floor space were able to turn out 2,500,000 units per year. With the old line, it would have required 120 per cent more people and 75 per cent more floor space to turn out a similar volume. With only four models dealers have had much less of an inventory

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<sup>4</sup> *Use of Electronic Heating Equipment in the Molded Plastic Products Industry*, New York, Dun & Bradstreet, 1946.

problem, selling has been made easier, and the turnover has increased all along the line from company to user.<sup>5</sup>

**Fields Subject to Product Research.**—While product research has been applied most generally in connection with such items as foods and drugs, there is no product which is not susceptible to its techniques. For example, in the soft goods and fashion products industries, consumer research on products is just coming into its own. The Williamson-Dickie Manufacturing Company has made a study to design an ideal set of work clothes. The Pepperell Manufacturing Company has made studies of sheets and pillowcases, dealing with such subjects as color. In a study for DuPont's Acetate Fabrics Division, Alexis Sommaripa found that the consumer was interested in a cool fabric, but that the consumer's conception of coolness and the manufacturers' did not agree.<sup>6</sup>

An unfortunate experience as a result of overlooking the requirements of the market is illustrated by the report that when the Lambert Pharmacal Company decided to expand its operations and add a tooth paste, it assumed that the large number of Listerine users would welcome a dentifrice which carried a similar flavor. Without any measurement of market preferences, the new product was placed on the market and a considerable sum invested in advertising and selling effort. It was later discovered that taste is one of the chief factors by which the user judges tooth paste, and that consumers did not like the Listerine flavor. The company accordingly changed the flavor of the dentifrice, and it was immediately accepted. A small investment in product analysis would have saved the firm a large and ineffective advertising expenditure. Examples of cases in which firms have made the mistake of failing to take consumer preferences into account in designing products, whether highly technical or simple consumer goods, can be found frequently.

The Dobbs Hat Company makes up hundreds of experimental models of women's hats in advance of the season. The Company's first step is to show these models to a number of typical women and obtain general preferences in a "consumer jury" type of research. At the beginning of a particular season, the company reduced the number of models to eighteen and placed them on sale in all parts of the country, keeping careful sales records during the early part of the selling season. On the basis of sales data and fashion-popu-

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<sup>5</sup> Robert S. Peare, in an address before Market Research Council of New York, December, 1946.

<sup>6</sup> See Percival and Matilda White, "How You Can Pre-Test the Product and the Market for Soft Goods Items," *Sales Management*, July, 1946, p. 111.

larized items, simplified stocks were recommended, with the result that Dobbs showed excellent sales increases in spite of a generally declining market.<sup>7</sup>

In a classic product study, a manufacturer planned to enter the electric range market. A technical design engineer collaborated with a marketing researcher in planning a product study before the new line was designed. Phases of the product on which consumer preferences were taken included design of base, location of heating units and switches, position of oven and broiler, design of burners, design of oven, and such minor features as work light, time clock, and storage facilities. The result was that the manufacturer entered this new market with a product so clearly in tune with the needs of users that the venture was an instantaneous success.

Firms offering services to the public can also apply marketing product analysis successfully. A notable example is the New York Central Railroad, which made extensive studies in the design of railroad coaches and sleeping cars and in various service features. These studies also gave an insight into the attitudes and reactions of the traveling public which was extremely valuable to the management. Insurance companies and financial institutions may also apply the techniques of product research to the specific items of service which they offer the public. For example, insurance policies have definite characteristics to which the public may react favorably or unfavorably, and the methods of product testing provide a means for scientifically obtaining consumer preferences.

There are many unusual fields in which the marketing research procedures of product analysis are applied and which, because of the special nature of the product or service involved, have led to the development of specialized techniques and methods. One such field is motion pictures. In addition to devising methods of pre-testing the box-office appeal of a picture during the process of production, marketing research studies such special elements as the personal drawing power of actors and the value of various script ideas. Field surveys are conducted to obtain ratings of stars, scenarios, and possible titles. Mechanical opinion-recorders have been developed to apply audience research techniques in order to evaluate pictures before release and to provide a basis for rewriting scripts and cutting the film. Penetration studies, again employing adaptations of standard field research procedures, measure the effectiveness of promotion, advertising, and publicity releases long before the

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<sup>7</sup> Arthur Stack, "Sales Increases in a Declining Market," Twelfth Boston Conference on Distribution, 1940, pp. 97-98.

picture is actually shown in public theatres. Repeated comparisons of box-office receipts for a given picture with the various predictions implicit in the prerelease research demonstrate that in this special field the basic marketing research procedures applied to product analysis result in vastly increased sales and profits to the producer.<sup>8</sup>

### Specific Types of Product Research

1. **Adapting Products to Market Preferences.**—Many an existing product is severely handicapped because one or more of its characteristics are not in tune with current market demand. Consumer preferences are constantly changing, and progressive manufacturers periodically subject their products to marketing research. The consuming public is extremely sensitive to relatively minor variations in taste, color, and shape. Only through comprehensive product tests is it possible to discover precisely the product characteristics which make a market winner.<sup>9</sup>

Minor product changes are made from time to time in the normal course of business. Sometimes it is necessary to change a formula or specification because of a shortage of a particular raw material; sometimes a change in manufacturing methods occurs; often products are changed in order to keep up with competition. No product change should be made without a marketing research on the new variation, for the public is uncannily sensitive to the smallest change. An apparently slight variation in the consistency of a dentifrice, for example, resulted in a severe loss of market position for one manufacturer.

On the other hand, when sales lag, marketing research will often find some new product characteristic which makes it possible to revitalize sales with the well-recognized impact of a campaign based on a new and improved product. The form taken by a study designed to adapt an established product to market preferences depends upon the product involved. In some cases it is size, shape, or color which is the important problem. In others, the chief issue may be taste or texture. Often ease of use or operation is a dominant consideration.

One important aspect of these studies in which the skill of the marketing researcher comes clearly into play is in determining the

<sup>8</sup> See Marjorie Fiske and Leo Handel, "Motion Picture Response Analysis," *Journal of Marketing*, January, 1947, pp. 273-280.

<sup>9</sup> For a detailed outline of a product development program, see Richard H. Moulton, "The General Foods Check List for Development of New Products," *Sales Management*, May 1, 1948, pp. 37-39. For a complete case study of applied product research, see "How Lever Markets a New Product," *Tide*, October 29, 1948, pp. 33-36.

specific characteristics which are of greatest significance. It is obvious folly to attempt to test scientifically all the possible features in all variations. Only through extensive experience can one obtain the insight which makes it possible to select those specific characteristics which should be subjected to actual testing.

Another way in which the skill of the researcher comes clearly into the foreground is in working with the technical laboratory staff in the development of test products. Product testing is not a one-time survey matter. One study extended well over eighteen months, during which time the consultant directing the study was able to put his finger on unsuspected product deficiencies. Applying his suggestions, the physical scientists incorporated specific variations in one feature, which on market test proved to be the solution to a very baffling market resistance.

**2. Marketing New Products.**—An important application of marketing product research is the development of new types of products to be added to the line. Manufacturers find that adding new products provides a constant opportunity for expanding sales and increasing profits. Many companies begin with the manufacture of one product or a small number of specialized products; as they grow, they feel the restriction of a market limited by the number of products manufactured. Marketing and distribution research can contribute greatly to the success of a business operation by discovering the demands of the market for new types of products to fill needs which have not yet been met. Perhaps even more important, it can investigate the potential markets for products which are not fundamentally different from those being marketed by the company, and can indicate the type of commodity which it would be most advantageous to add to any given line of products.

To analyze potential demand for products new to the market or the manufacturer, the common procedure is to begin by a comprehensive search of marketing data already available in secondary sources. (See pages 397 to 402.) This search will frequently indicate that the market is so broad that the amount of production anticipated may be readily absorbed by obtaining a relatively minor competitive share. On the other hand, the limits of the market may not be determinable with sufficient accuracy from secondary sources, or the contemplated product may be so novel that it will be necessary to conduct a field investigation to determine the size of the potential market and the attitudes of prospective buyers. This investigation will indicate broadly what resistances will be met on the basis of experience with similar products.



Before adding a new product, a company should consider a number of factors, most of which should be subject to considerable marketing research in order that decisions as to choice of field may be based upon accurate facts. These factors include:

1. General size and financial position of the company.
2. Manufacturing facilities available.
3. Relationship of the proposed product to the present line.
4. Sales requirements and whether the present sales organization is really capable of handling the new product.
5. Distribution channels which must be employed.
6. Over-all market demand.
7. Strength of competition.

In view of the variety of factors involved in marketing a new product, the first step usually should be to engage experienced counsel in an exploratory study. The advantage of such a general investigation is that marketing research is given sufficient freedom to be objective and to study all ramifications of the problem. If a formalized research study is launched too early, significant considerations may be overlooked or the manufacturer may miss the opportunity to produce just the right product.

In evaluating the various potential fields for new products, factors of production, finance, and marketing should not be considered separately. Rather, they should be considered as so interrelated that the experience of the marketing researcher and the findings of marketing studies are applied concurrently with the analysis of production and financial aspects. For example, one of the primary considerations in choosing a product field is that of manufacturing facilities. Since the marketing man may know a great deal about the kind of production facilities demanded by market conditions, his services should be employed along with those who specialize in production or financial matters, rather than waiting until a later time.

In making marketing studies for new products, it is important to concentrate on fields closely related to the one in which the manufacturer is currently engaged. Nielsen index records show a much higher percentage of failures than successes where companies, established in one field, have attempted to invade a nonrelated field. A tooth paste manufacturer, for example, has a much greater chance of success in bringing out a new tooth powder than he does of invading the hair tonic field. Manufacturers are all too likely to fail to analyze competitive conditions accurately or to appraise properly the power of entrenched products. The Nielsen records, which

have measured competitive sales progress of a large number of new products attempting to invade established fields, also indicate that it is better to introduce a new product of improved or different characteristics than to imitate a successful competitor.<sup>10</sup>

Another special aspect of new product research is to determine the unsatisfied needs of consumers. This type of consumer research goes beyond the normal "new product" study, which generally deals with products new to the manufacturer but already in use by consumers. The purpose of a study to determine unsatisfied needs is to learn what entirely new type of product, not now in use by consumers, would be in demand if made available to them. As consumers themselves are not aware of them, these needs can be discovered only by careful study of what people now have, how they use present products, and their reaction to products now available. One company undertook to find out how well satisfied housewives were with their kitchen duties. Each housewife recounted every task performed in her kitchen, indicating which tasks were difficult or took too long. Promising market opportunities for a number of brand new products grew out of this study.<sup>11</sup> This technique may also be applied to industrial products. Its success depends, obviously, on extremely skillful interviewing and control of the research.

**3. Analyzing the Product Line.**—A specialized aspect of product research which is frequently a fruitful source of increased marketing efficiency is the analysis of the line of products which a firm manufactures or sells. The term "line of products" embraces all varieties which are sold, including the various product types, sizes, colors, designs, and other variables which create additional items to manufacture and sell. If an organization must sell four different grades in twenty different colors, thirty patterns, and twelve sizes, it is easy to see how the line will wind up in a maze of complexity, even for one kind of product.

In the normal growth and operation of a business enterprise, there is a natural tendency to add new items in order to expand volume. Frequently these items are added without sufficient study of whether the new item will increase the sales volume, whether the total gain represents a significant contribution to profits, or what the effect of the extra item will be on the sales and profits of the balance of the line. Additions are often made to meet the special requirements

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<sup>10</sup> See Arthur C. Nielsen, "Advances in Marketing Research," Eighteenth Boston Conference on Distribution, 1946, pp. 93-94.

<sup>11</sup> See Albert B. Blankenship (ed.), *How to Conduct Consumer and Opinion Research*, New York, Harper & Bros., 1946, pp. 12-14.

—real or imagined—of small geographic areas, specialized distributors, or individual customers, whose importance or special needs are magnified by sales personnel. Then, too, market requirements change from time to time, with the result that obsolete and outmoded items are retained long after they have served their purpose. Blind following of competition, habit, tradition, sentiment, lack of courage to prune out dead items, and many other irrational practices lead to lines which are so cluttered that they greatly impair the efficiency of the selling operation. Some of the more important marketing consequences, in addition to increased production costs, are ineffective selling because of the dissipation of salesmen's efforts, dilution of advertising impact, and greatly increased distribution costs resulting from increased warehousing, stock investment, and accounting costs. The ability of dead items to survive is amazing. Only through application of the sharp tools of marketing and distribution research, which analyzes the real requirements of the market, can the line be scientifically pruned down to the most efficient combination of items.

Streamlining the line is only one aspect of the application of product line analysis, for marketing and distribution research also usually reveals serious gaps in the line from the point of view of market requirements. Producing a new package size which meets the needs of a significant segment of the market has increased volume and profits for many firms. The marketing researcher who is making a line analysis, therefore, works simultaneously in the directions of streamlining the line and discovering important new additions which should be made.

Product analysis and line analysis should be made periodically. Major line analyses, once a basic job has been done, need not be made more frequently than once every several years, provided that means are set up through adequate sales analysis systems to detect important changes in demand.

**4. Package Research.**—Study of the package is a special phase of marketing product analysis. Modern emphasis on proper package design has come largely as a result of efforts to satisfy the demands of the consumer. Utility devices, such as a pouring mechanism, have frequently been added to meet the consumers' needs. Re-use packages, such as a coffee package which may be used as a fruit jar, have also been developed as a result of marketing product analysis. Other phases of package analysis include the development of designs which make for better consumer identification in the store, and the development of packages which provide for greater ease in using the product once the original package has been opened.

An interesting example of package research is the series of marketing studies made by the DuPont Cellophane Company.<sup>12</sup> These studies were designed chiefly to demonstrate the influence on sales volume of packaging various types of products in cellophane. Products studied included pork sausages, toilet tissues, breads, and condiments.

The most common technique in packaging research is obtaining consumer preferences through paired comparisons. In a study of design for a beverage container, for example, seven alternative package designs were produced and identified by letters "A," "B," "C," etc., in such manner that the respondents could not see the identification marks. Individual respondents were shown two designs at a time, and asked to make a selection. The various designs were rotated through a series of interviews with 350 men and women so that a total of 1,050 comparisons were made with the following results:

TABLE 3  
INDIVIDUAL COMPARISONS AND TOTAL VOTES  
(50 votes in each comparison)

Number of Votes for	When Compared with							Total Votes
	A	B	C	D	E	F	G	
A.....	—	33	18	38	24	39	38	190
B.....	17	—	23	37	19	29	25	150
C.....	32	27	—	32	19	39	35	184
D.....	12	13	18	—	13	26	28	110
E.....	26	31	31	37	—	24	40	189
F.....	11	21	11	24	26	—	15	108
G.....	12	25	15	22	10	35	—	119

The Beech-Nut Packing Company has done considerable marketing research in package design, segregating elements of general appropriateness to the product, color, and design.<sup>13</sup> In addition to consumer preference tests, package research employs sales tests, observational studies, shelf tests, and use tests.

### General Procedure for Product and Package Research

1. **Laboratory Development of Test Varieties.**—The first operation in product research normally is performed within the technical laboratory, and consists in the development of a series of varia-

<sup>12</sup> *DuPont Cellophane Company*, Michigan Business Cases, Market Analysis Series, No. 7 and No. 8, 1935.

<sup>13</sup> Richard B. Franken, *Scientific Selection of Package Designs*, privately printed.

tions of the product itself. A great deal of basic research should precede this specific operation. Sometimes management decides hastily to make a product study, and attempts to have test units of the product prepared without an adequate background of physical research. This is one of the dangers to be guarded against carefully, for good products, no matter how simple, are based on painstaking laboratory research. If the company has been neglecting its technical product research, many months of work on the product in the laboratory may be required before any work in the market is undertaken. Experienced marketing researchers have often found a deficiency in the basic laboratory work.

The laboratory should produce a wide number of product variations in this stage, as there is always great danger that the best marketing opportunities may be overlooked because the product experimentation has stopped short in the scale of values covered. For example, a food product test, in which the degree of flavoring to be used is being tested, should include samples which deliberately overflavor and others which deliberately underflavor the product beyond limits considered reasonable. The number of different variations developed for market testing will vary according to the nature of the problem. In one dentifrice study, over twenty different products were developed in the laboratory; in a hair tonic study, six; and in a syrup test, eighteen.

In the case of a larger product, such as an electric refrigerator or a piece of industrial equipment, it is obviously impracticable to produce a large number of test models for marketing research purposes. In such cases, the problem is solved by isolating different elements or features of the product. When the marketing investigation is later made, a great deal of ingenuity is often employed in simulating the products through scale models of sections, folding dummies, and illustrations.

It is highly desirable that the marketing researcher and the laboratory scientist work closely together during this first step, as personal experience and basic judgment are essential factors in the process of developing the best product variations for market testing. Many a product research has failed to yield results because the products being tested were inadequate, rather than because of faulty testing procedure.

**2. Exploratory Consumer Survey.**—After the first group of product variations has been prepared, the marketing researcher makes a number of informal exploratory interviews with users of

the product. He shows the new variations and has the consumers use them. The general technique is similar to the procedures of the *Informal Investigation*. (See Chapter 18.)

This step is very important for three reasons. First, it provides a basis for reducing the large number of test variations to the smaller number which will be submitted to formal research. Secondly, by depth-interviewing techniques and careful probing, the marketing researcher often obtains ideas which lead to further modification of the original test products in the laboratory. Thirdly, this exploratory work provides a basis for designing the questionnaire forms and field procedures for the formal testing.

**3. Selection of the Control.**—In all product testing the best results are obtained by employing a control product against which different product variations can be tested in paired comparisons. A common practice is to use established competitive brands; this has the advantage of indicating whether the new product will stand up on the market. In such a case, it is important to remember that it is not necessary that the test product receive an absolutely higher preference than the control product, for the established brand usually has the advantage of many years of intensive promotion and an established preference on the part of the consumer through habitual use.

Sometimes it is more effective to employ one of the test variations as a control unit. This is particularly true in the early stages of product testing, during which the objective may be to determine which new product should be checked later against established brands.

**4. Determining the Testing Series.**—Most marketing product tests do not involve research confined to one variation of the product or to a single factor, such as color, flavor, design, or package. A common mistake is to employ two or more test variations which contain more than one factor of difference, then to attempt to interpret results which are not subject to proper interpretation.

For example, a test of two hair tonics, one green in color with a relatively oily consistency, and another neutral in color with low oil content, would be inconclusive. In product testing all variables except one should be held constant in each unit of the test. Thus, in the hair tonic test, the two colors should be tested while the degree of oiliness is held constant, and the oiliness should be tested separately.

As a result of this requirement, a formal product test is likely to involve a series of two to four variables, with two to three dif-

ferent test products representing differences within each of the variables. When these are thrown against control units of established brands, as is often the case, some very complicated varieties of individual comparisons are sometimes set up in a comprehensive product research.

For this reason, and also because any product test is likely to lead to new ideas for further product development, it is becoming increasingly common practice to plan a number of tests over a period of time. In fact, some firms make it a practice to engage in continuous product testing. There is no doubt that the best results are obtained when it is possible to do this, instead of hoping to obtain final results in one product research operation.

**5. Preparation of Test Units.**—On the basis of exploratory consumer interviews, the product variations to be submitted to the final tests are selected, and the final form in which they are to be used in the field is determined. While this step may appear to the uninitiated as relatively minor, there are a number of specific problems which arise.

One of these problems is the amount of each test product which is to be furnished each tester. A sufficient amount should be provided to make a fair test under normal use conditions, yet the amount must be kept reasonably small to avoid difficulty in physical handling in the field and to keep costs down. Another problem is that of providing control products, usually an established brand currently in use by the individual tester, in unidentifiable form. A third question is the means of identification, usually accomplished by the use of random letters from the alphabet. However, these letters must be selected so that there is no danger that they will influence choice. This means avoiding the first and last three letters of the alphabet and letters which may be regarded as a clue to identity, such as the first letter in the name of a known brand. Affixing identification to each unit of the test products so that there is no danger of its becoming removed or illegible is also necessary. The package, or other container in which testing units are to be placed, must be designed. Finally, a kit which contains test products in the right combination, and in such form as will be most effective from the point of view of both the use of the product by the tester and economical handling by the investigator, must be prepared. All these problems usually provide interesting opportunities for ingenuity and call for considerable experience in product research on the part of the research organization.

**6. Selection of Consumer Testers.**—Inexperienced product researchers frequently make the mistake of failing to exercise proper care in the selection of consumers who are to participate in the final tests. Taking individuals in more or less random manner as they happen to come in the population will not produce proper results. Testers must qualify on the basis of stringent specifications. The first of these is that they must be typical users of the type of product being tested. In addition, matters of age, sex, brands habitually used, and similar marketing characteristics must be carefully considered in selecting the actual participants in the test if the conclusions are to be valid.

Here is a point at which possession of good consumer market data is of great value. (See Chapter 4.) Knowing the basic characteristics of the consumer market is essential for successfully selecting test subjects.

In this stage complete specifications for the sample of satisfactorily completed tests are drawn up. The number of consumer testers to be included in the study is also determined at this point. It should be noted that in product tests the size of the sample is much smaller than in general market surveys. Usually one hundred testers of each pair of products compared is adequate, and smaller samples are frequently employed.

**7. Preparation of Forms and Field Instructions.**—The preparation of forms for recording consumer preferences and field instructions in a product test follows the general principles of other field investigations. (See Chapters 20 and 22.)

In product testing, it is particularly important to keep adequate control sheets which show placements and recalls. This is necessary because such research involves two or three different interviews. In the first interview the prospective tester is given a supply of test products, and detailed classification data, such as age, sex, brand use, and economic class, are taken. These data are most important, as they provide the basis for determining whether the respondent qualifies properly for making the tests. If he qualifies, a supply of two variations of the product, for example, "N" and "T," are left for normal use. The next call-back obtains preference based on use of these two variations, usually with reasons for preference. The number of days which elapse between these two interviews, and succeeding ones if employed, is very important, and it is essential that proper controls be set up so that the timing of the calls is correct.



**8. Controlled Consumer Choice.**—Most product researches end with the completion of the seventh step. However, it is frequently desirable to carry on two more phases.

The controlled consumer choice involves a technical procedure which goes beyond the stated preference of the respondent and simulates market conditions by observing quantities consumed or by obtaining an objective measurement of preference by offering free supplies of test products in different quantities.

In using this technique, the investigator calls upon the consumer several times, observes the order in which the various units are used, and measures the rate at which each variation is consumed. Large quantities of the test products must be provided so that both may be used freely; the test must continue over a long period of time, sometimes several months, so that the testers may become thoroughly used to the products; and sufficient quantities must be consumed so that there can be no question of the difference in amounts.

On the final call, the tester may be offered varying amounts of the two products free as a further means of observing preference. For example, if the product test up to this point indicates a preference for "F" over "O," the respondent may be offered a choice between one package of "F" or two packages of "O." If "F" is still chosen, her stated preference is confirmed; if not, it is modified. By offering different relative amounts of the test products, a quantitative measurement of the degree of preference is indicated. Some attempts have been made to adjust these amounts in such manner as to obtain a measurement of how much more a consumer would be willing to pay for one product variation as against another.

**9. Sales Testing.**—A final step in product research is to make a controlled sales test, which may provide conclusive evidence of the degree of market acceptance. Care must be taken to select markets which are representative. It must also be borne in mind, in interpreting results, that the sales obtained are also a test of the advertising, distribution, and promotion effectiveness as well as of the new product. Collateral advantages of the sales test are that retailer resistances to the new product are uncovered and effects of display, pricing, and distribution influences on sales volume are disclosed.

A sales test should be used in addition to the consumer tests discussed above, and not be regarded as a substitute for consumer product research. Certain disadvantages of sales testing must be kept in mind:<sup>14</sup>

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<sup>14</sup> See Blankenship, *op. cit.*, p. 41.

1. Competitors have an opportunity to copy product features and to build up their defenses against the new product.
2. Sales data during a test period do not show true consumer acceptance, and provide no qualitative data regarding reactions to the product.
3. It is difficult, often impossible, to give proper consideration to various factors affecting sales, such as weather, promotion, competitive conditions, and the many other variables which complicate all experimental work in marketing.
4. Sales tests take considerable time and money.
5. It is necessary to go into pilot-plant production.

The manner in which General Foods relates sales testing to consumer preference studies is as follows:

General Foods, Inc. has on file a large list of interested consumers who constitute a sort of permanent jury panel. When the company brings out a new product, often when it repackages an old, one of the first steps it takes is to send the innovation to an adequate sample of the available guinea pigs . . . knowing that the product will be tested in the ultimate laboratory—the consumer's kitchen.

. . . Following the jury test, an actual marketing test is started. In the case of Grape-Nuts Flakes, for example, . . . three cities were selected for marketing tests.<sup>15</sup>

### Collateral Findings in Product Research

One of the most important elements in conducting product tests is the collateral findings—those not directly relating to consumer acceptance of the product—which may be obtained. The product-testing situation creates an environment in which it is possible to obtain certain types of valuable marketing information. Care should therefore be exercised to insure that as many of these collateral benefits as possible be obtained.

The most important collateral information obtained in conjunction with a product research among consumers is that which relates to buying motives, to reasons for brand preferences, or to individual product features and selling appeals. This latter value is particularly obtainable in connection with studies for industrial products. The problem of basic buying motives—the reasons why people purchase particular products—has long been the most baffling problem of marketing research. The environment of the product

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<sup>15</sup> Richard Giles, "Test the Product First," *Printers' Ink*, July 16, 1936, p. 41.

test creates a situation in which, with careful handling, valuable data on buying motives may often be obtained.

A product research, however, is not a substitute for a basic consumer survey, and the mistake should not be made of attempting to load the product-testing activity with a complicated questionnaire designed to obtain general marketing information. Furthermore, the samples of consumers employed in a testing operation do not represent a valid sample of the total market. Nevertheless, a well-planned product study takes advantage of every opportunity to obtain collateral information which can be properly developed in conjunction with such a research.

## CHAPTER 4

### BRAND POSITION ANALYSIS; CONSUMER SURVEYS

#### Brand Position Analysis

One of the most vital specialized forms of marketing and distribution research is brand position analysis. Such studies reveal the relative share of total sales obtained by each brand in a given product field or their acceptance in the mind of the consumer. Through periodic surveys or syndicated reporting services, the competitive position of individual brands is analyzed to determine current brand standing and trends in consumption over a period of time.

Analysis of brand position can be made on several different bases. The most common forms are:

1. Consumer purchases.
2. Number of users.
3. Consumer preferences.
4. Brand recognition.

While different marketing researchers will frequently argue in favor of one or the other of these four forms, each of them is important and makes a useful contribution to a full understanding of competitive position. Knowledge of competitive sales (consumer purchases) is, of course, fundamental. However, this does not tell the full story. It is important to know the relative *number of users* of each competitive brand because temporary market positions of high sales may not be based on a sufficiently broad base of customers. *Consumer preferences* may also, at any given time, be out of line with current sales figures, and in many fields a separate check on brand preferences may foretell future developments. A fourth measurement, *brand recognition*—that is, the percentage of consumers who can identify a brand name—may shed further light on competitive market standing. Many manufacturers of old, established products are surprised when they discover the relatively small number of consumers who are aware even of the existence of their brand. Measuring the rate of growth of the recognition of a new brand (brand-

name penetration) is a vital measurement of the marketing progress of a new product. It is not an infrequent occurrence to find that high identification is coupled with low consumer purchases or vice versa. Knowledge of trends of brand recognition has many

### LOCATIONS OF MARKETS AND COMPETITIVE POSITIONS

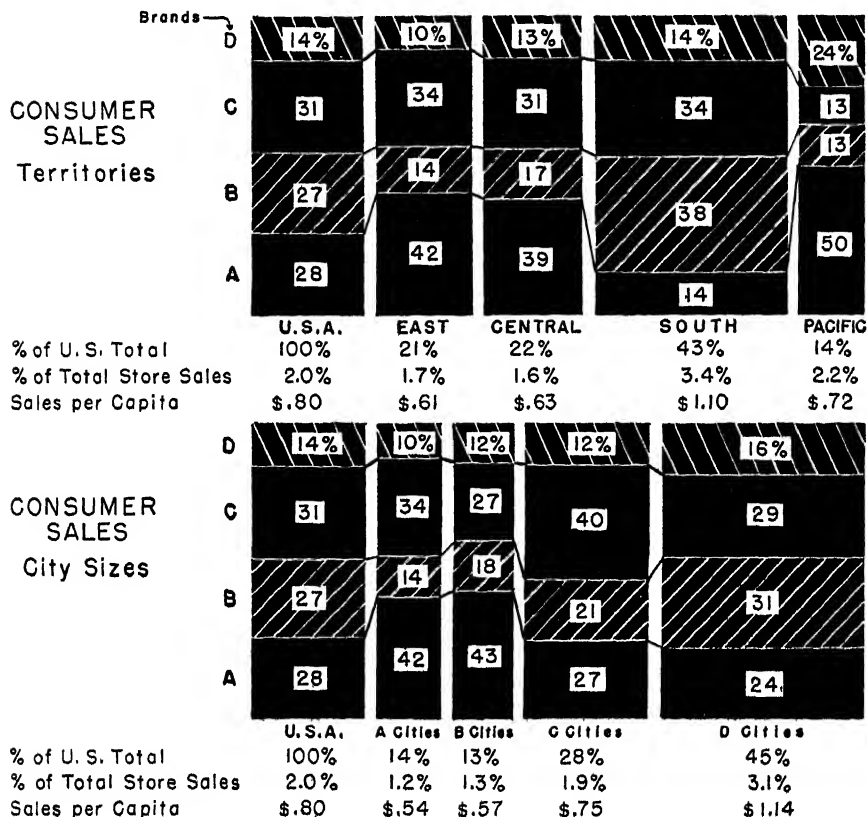


Figure 4. Brand Position Analysis

This chart shows the comparative consumer sales volume of four competitors by territories and by population groups. (Courtesy A. C. Nielsen Company)

uses in marketing management, particularly as a guide to advertising policy. When all four factors—consumer purchases, usage, preferences, and recognition—are known, they may be related into a pattern which points more clearly to effective marketing strategy than does any one of them alone.

**Measurement of Consumer Purchases.**—It has been demonstrated clearly that a manufacturer's or wholesaler's sales records are inevitably misleading because of the fluctuation of stocks in the hands of dealers.<sup>1</sup> Furthermore, because of cross-distribution of merchandise by various wholesale and retail dealers, the firm's own records are not subject to brand sales analysis by sufficiently refined territorial or city-size units to be fully revealing. Finally, the true consumer position of competitive brands and competitive movements from period to period must be known to plan marketing strategy effectively.

Brand position analysis starts at the consumer level. By measuring consumption by families or sales by retailers, accurate brand standing in the market is obtained. The data are most revealing when broken down by package size, price, dollar volume, and unit volume. By measuring dealer purchases simultaneously, the amount of merchandise in stock and turnover rates may be computed. These latter measurements are important in revealing overstocked and understocked conditions.

By breaking brand position data down further by significant market segments, such as geographic areas, city size, and economic class, market planning becomes much more scientific and precise. Sales policies, the distribution of selling effort, and advertising strategies can be planned to produce much more effective results.

The business firm which has an accurate measurement of competitive sales at the consumer level has a genuine advantage over many of its competitors. Those who rely on their own sales records are using information quite remote from the actual market facts, so it is literally true that the manufacturer having good consumer brand data knows more about his competitor's sales than the competitor who does not possess this information himself. Furthermore, it is possible to watch the result of every competitive move in marketing strategy—special deals, promotions, price changes, etc. As management accumulates a great deal of experience, its horizons are expanded by a careful study of these results.

The chief value of analyzing brand sales position is the detailed breakdown of the consumer sales of each competitor in an industry by various marketing units. The detail in which one service provides this information to its clients is shown in Figure 5. By means of competitive sales data, the importance of specific market segments is learned, as well as the competitive situation. For ex-

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<sup>1</sup> See F. K. Leisch, "Profits from Marketing Research," American Management Association, Consumer and Industrial Marketing Series, C. M. 24, 1937.

ample, the true importance of each city-size group in various geographical areas in the market for a specific product is accurately known.

By careful analysis of competitive sales over a period of time, the effectiveness of specific marketing activities, such as special advertising campaigns, loading dealers with extra stocks, the introduction of new products, and consumer sampling, is measured. One of

### COMPLETE LIST of DATA SECURED NIELSEN FOOD INDEX

- |                          |  |
|--------------------------|--|
| 1 SALES TO CONSUMERS     | 7 PRICES (Wholesale & Retail)                |
| 2 PURCHASES by RETAILERS | 8 RETAIL GROSS PROFIT                        |
| 3 RETAIL INVENTORIES     | 9 DIRECT vs. WHOLESALE PURCHASES             |
| 4 STOCK-TURN             | 10 AVERAGE ORDER SIZE                        |
| 5 DISTRIBUTION           | 11 DEALER PUSH (Displays, Spec., Adv., etc.) |
| 6 PER CENT OUT-OF-STOCK  | 12 TOTAL SALES—ALL COMMODITIES               |

#### BROKEN DOWN BY:

		TERRITORIES		CITIES	STORES		PACKAGE SIZE	CONSUMER INCOME
BRANDS		STANDARD	CLIENT	POPULATION RANGE	TYPE	SIZE		
COMPETITORS	YOURS	NEW ENGLAND	1	GREATER NEW YORK	CHAIN	SUPER over \$100M	SMALL	UPPER
	A	GREATER NEW YORK	2	GREATER CHICAGO		INDEP	LARGE \$50M to \$100M	MEDIUM
		B	REMAINING EAST		4		C	MEDIUM \$10M to \$50M
	C		CENTRAL EAST	6	D	SMALL under \$10M		
		D	GREATER CHICAGO	7			MISC.	D & RURAL under 5M
	MISC.		CENTRAL WEST	8	TOTAL	PACIFIC		
		TOTAL	SOUTHEAST	9			PACIFIC	
	TOTAL		SOUTHWEST	10	PACIFIC			
		TOTAL	PACIFIC	11		PACIFIC		
	TOTAL		PACIFIC	12	PACIFIC			

Figure 5. Data Available from One Syndicated Service

This chart shows the detail in which brand position data may be broken down. Much of the value of brand position research comes from such detail, for critical weaknesses and strengths in sales and distribution are hidden in broad, general figures and discovered only by exhaustive analysis.

the chief values of this information is that it is possible to measure the long-range effect of special activities. For instance, a manufacturer may offer a special deal on his product, perhaps with a premium. Factory sales will show a large increase for a short period of time, but will give no indication of the long-range effect of the special deal. Factory sales may decline below a normal level shortly after the promotion, and the manufacturer may therefore conclude that the strategy was not effective. Measurement of consumer brand position, however, may show that the deal brought sales to a new plateau, hence was successful.

Analysis of seasonal sales variation, which is so important to the timing of promotional efforts, is another use of brand position analysis. It has been found that the variation in consumption of products in certain lines differs greatly from the variation assumed by management from factory sales data.

Another important aspect of brand position analysis to the national advertiser is the study of private brands. In many fields national advertisers have unwittingly been giving advantages to private brand manufacturers because they did not have accurate data on their extent, strengths, and weaknesses.

Brand sales position analysis is also the foundation of most of the experimental work carried on in marketing and distribution research. In setting up a sales experiment, accurate measurement of brand movement provides the basic data needed to determine the success of an experiment. Obtaining competitive sales volume by brands is generally necessary in order to develop an accurate measurement of accomplishment.

**Sources of Brand Position Analysis Data.**—Data on brand position analysis can be obtained from the following sources:

1. **PUBLIC SOURCES.**—Information gathered by the government and made public provides competitive sales data for some products. The value of this source is limited to the few industries for which information is obtainable in sufficient detail. An example is the automobile industry. Through the licensing system, new car and truck registrations are currently available.

2. **RETAIL STORE AUDITING ORGANIZATIONS.**—The data obtained from retail store audits provide accurate competitive sales data with very detailed breakdowns, and are perhaps the most widely used source. The primary source in this field is the A. C. Nielsen Company. (See page 64.) Store audits in individual markets are maintained by a number of advertising media. Examples are the *New York Herald Tribune* and the *St. Louis Globe-Democrat* store audits.

3. **CONSUMER PANELS.**—Organizations such as the Industrial Surveys Company maintain continuous panels of consumers who regularly report their purchases by brands. These data have the advantage of being broken down into such consumer classifications as economic class, but they do not reveal dealer information available from store auditing sources. (See page 304.)



4. PERIODIC CONSUMER SURVEYS.—Many firms employ consumer surveys, made at regular intervals, to determine competitive usage of a product. It should be noted that the percentage of individuals or families using a particular brand of a product does not exactly parallel the amounts purchased. However, in some fields, competitive position in terms of users is satisfactory information and is generally desirable as a supplement to sales data. A great deal has been learned about interviewing techniques to obtain brand usage. These techniques eliminate the hazards encountered in the early days of marketing research which made consumer surveys inaccurate from a competitive brand position point of view. By obtaining data on rates of consumption, it is frequently possible to project usage data into a satisfactory approximation of competitive brand purchases.

The periodic consumer survey is the form employed for studies of consumer preferences and of brand recognition. These may be made by the individual competitive firm and are often available from advertising media. For some products syndicated services provide such data. The Psychological Brand Barometer, conducted by the Psychological Corporation, has obtained data on brand preferences in a number of fields for several years. The consumer surveys of the *Milwaukee Journal* have provided brand preference data on that market for twenty-five years.<sup>2</sup> The Brand Name Audit, conducted by Benson and Benson, provides periodic data on brand identification for a number of products on a syndicated service basis.<sup>3</sup> The Cornelius Du Bois Service provides periodic information on brand identification, brand usage, and brand preference. These data are analyzed by various classes of consumers, with identification, usage and preference interrelated to show a composite picture. By analysis of changes from year to year, the service shows manufacturers where their products are rising or falling in consumer acceptance.

### Consumer Surveys

One of the earliest forms of marketing research to gain popularity, and today still perhaps the most fundamental, is the consumer survey. The purpose of consumer survey studies is to analyze the

<sup>2</sup> See "Leader or Tail-Enders? A Study in Brand Ranking," *Sales Management*, May 20, 1948, pp. 86-88.

<sup>3</sup> See "New Brand Audit," *Tide*, January 16, 1948, p. 64. For a discussion of method in brand preference and brand identification studies, see Harry Deane Wolfe, "Techniques of Appraising Brand Preference and Brand Consciousness by Consumer Interviewing," *Journal of Marketing*, April, 1942, pp. 81-87.

characteristics of the ultimate user of the products of industry. By describing and measuring the consuming market in terms of such standard elements as age, sex, and economic class, consumer surveys provide executives with an understanding of the end use of their product which forms a factual foundation for many of the most vital decisions in marketing and distribution. Lack of precise knowledge of the character of the consuming market is one of the most serious handicaps any marketing operation can have. Possessing superior factual knowledge of the ultimate buyer, on the other hand, provides one of the strongest competitive weapons.

Consumer surveys range from basic national studies of the most significant facts about consumers which have a bearing on various phases of marketing policy to small specialized surveys confined to limited geographical areas or designed to answer only one or two vital questions.

Some of the more common subjects which are studied in consumer surveys are discussed below.

**Who Uses the Product?**—It is frequently found that a company does not have an adequate understanding of the types of people who use its product. For example, one company assumed that 80 per cent of its product was being sold for use by adults. A marketing investigation revealed that less than 30 per cent was consumed by adults and that over 70 per cent was being used for infants. Another company found the situation almost exactly reversed. It had been manufacturing a food for infant feeding for many years and assumed that the big market was in this field. More and more growing children and adults began using the product, and it was finally discovered that while the use of their product for infant feeding was shrinking, the growing children and adult markets offered the best opportunities for sales expansion. In the case of another company, it was assumed that since it was manufacturing a high-priced specialty, the users of the product would be people in the upper income brackets. A consumer survey, however, revealed that the majority of the people using their product were in the lower income levels, or the mass market. Consumer surveys often reveal startling opportunities for the expansion of the sale of a product by discovering new groups of users which are either unknown to the management of the company or which are much more important than the management has believed them to be.

The following are specific examples of marketing research designed to determine the users of products and their characteristics:

"A Special Marketing Study on Cosmetics," showing usage by age groups, sex, and type.<sup>4</sup>

"Your Home and Music," a survey showing ownership and other data regarding musical instruments, radios, and phonographs.<sup>5</sup>

"Red and Green Dollar Food Study," showing food buying of farm families contrasted to that of city families.<sup>6</sup>

"A Study of Beer Usage."

"A Survey of Interest in Cigarette Lighters."<sup>7</sup>

"The Consumer Market for Deodorants."

A wide variety of factual information is usually obtained in connection with studies of product usage, often covering other subjects discussed in this chapter. In a deodorant market survey, for example, the following topics were covered, along with several others:

1. Number of persons using any deodorant.
2. Types of deodorants used.
3. Possession of deodorant at time of interview.
4. Length of time deodorants have been used.
5. Length of time present brand has been used.
6. Reasons for not using certain brands.
7. How user began using certain brands.
8. Whether users have noticed physical changes in deodorants.
9. Size of package used.
10. Specific purposes for which deodorants are used.

While studies of product usage were among the first to be undertaken in marketing research, and are still regarded as a relatively simple form by many users of research, they are actually difficult and the skill of the researcher in developing a good consumer survey is extremely important. Some of these studies run into very complicated situations. An example is a consumer survey of beer. If the greatest benefit is to accrue from such a survey, many factors which severely test research skills must be considered: an accurate definition of users, careful classification of users, distinction between packaged and draught beer, place of consumption, etc. In the hands of inept researchers a consumer survey can produce misleading information.

In studies of product usage, it is most important to define "user" accurately. The fact that an individual has at one time or another

<sup>4</sup> Hearst Magazines, Inc., 1946.

<sup>5</sup> *Parents' Magazine*, 1947.

<sup>6</sup> Midwest Farm Paper Unit, 1947.

<sup>7</sup> Philadelphia, Curtis Publishing Co., 1947.

used a product does not make him a user of any marketing significance. Only as some quantitative measurement of usage is employed, does the term "user" have a significant meaning from the research point of view.

This is the answer to the person who sometimes fails to appreciate the value of studies of product usage, and who may remark, "Everybody uses my product." One would wonder that there are nonusers of canned soups in this modern age, and no doubt there are relatively few families or individuals who have not, at one time or another, eaten canned soup. However, when the quantitative limit of purchasing one or more cans during a period of six months is set as the definition of a user-family, it has been found that usage is far from universal. When the definition is set at purchase of one or more cans in a period of one month, the proportion of user-families declines very sharply. The value of careful quantitative definition is further illustrated by contrasting the proportion of user-families on the basis of stringent definition between various market segments, such as geographic areas and population groups.

The definition of a user differs according to the product and the objective of the marketing research. In fact, one of the contributions of the research itself is often the accurate definition of a user.

**Analysis of Relationship Between Buyers and Users.**—Frequently the distinction between the types of persons who use the product and the types of persons who buy the product is an important one. Housewives are traditionally the "purchasing agents" of families. Sometimes it is important to direct activities toward the buyer, sometimes toward the user.<sup>8</sup>

One special phase of this type of study is the analysis of persons who influence purchasers. For example, the bulk of automobile purchases is made by the male heads of a family. However, automobile manufacturers have learned through study that the wives, children, and friends are important influences affecting the decision to buy a particular make, sometimes more important than the person who does the actual buying.

Consumer durable goods, such as homes, automobiles, and household equipment, as well as important service items like life insurance and education, present particularly fertile fields for this type of research. Determining the relative importance and relationship between such influences as the owner, building contractor, and archi-

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<sup>8</sup> See *The Influence of Women on Buying*, Hearst Magazines, Inc., 1946.

tect in the purchase of materials used in building and furnishing a home presents an intricate problem in consumer research.

**Why Consumers Buy a Product.**—Studies of buying motives are common forms of consumer surveys. It is important to the manufacturer to know whether consumers buy the product chiefly because of quality, style, service, or other motives. Marketing research may reveal that a product which on the surface is presumably a health product is bought by the large majority of consumers because of a desire to be beautiful or to advance themselves socially. A mouthwash, for example, as a solution for oral hygiene made little progress, but as a device to win suitors and husbands it was a great success. Some of the most spectacular achievements in marketing have come as the result of aggressive campaigns which have sold products on entirely new appeals. For example, it is assumed that people buy soap for cleanliness, but some of the most successful promotional campaigns in this business have been built on the strategy of selling soap as a cosmetic, tied in with the “beauty” appeal.

Consumer surveys can be extremely helpful in determining buying motives, in spite of the fact that this problem of determining the true reasons for human behavior is one of the most baffling in marketing research. Simply asking users “Why?” is likely to produce barren or misleading results. But if the proper technique is employed to get at buying motives and care is exercised in interpretation, it is possible to gain much useful information.<sup>9</sup>

A consumer research for a food product revealed the following buying motives as most significant:

1. Ease of preparing the dish to be served, reducing time in the kitchen.
2. Acceptance by children.
3. Makes meal more wholesome.
4. Richness of vitamins and minerals.
5. Makes best hot dish to go with cold foods.
6. Satisfies hungry man best.
7. Makes plain foods taste better.

**How a Product Is Used.**—Closely related to the question of why consumers buy a particular product is the question of how they actually use it once it has been purchased. Consumers are great experimenters; they often discover new uses for products which are un-

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<sup>9</sup> For a discussion of techniques, see page 299.

known to the manufacturers. For years raisins had a very restricted use in the American diet. Then a consumer survey discovered that women were using the product in many different ways in their homes, and an advertising campaign stressing new uses proved very successful. Lemons were traditionally used to make lemonade until a marketing research revealed tremendous possibilities in new uses, one example being their use as a hair rinse after shampooing, another as a laxative.

Sometimes marketing researches have shown that a particular type of product or an individual brand is used only for restricted purposes in some markets. If a toilet soap is found to be used only for the face and hands, a successful marketing campaign may be devised to encourage the use of the soap for bathing purposes.

Studies of the uses to which products are put provide continual sources of expanded sales. Sometimes the conditions of consumption change so that a manufacturer is threatened with a declining market, a situation which makes new uses imperative. At other times a product may have reached a condition of market saturation, in which case the development of new uses becomes the key to increasing sales.

The value of developing new uses for a product can be illustrated by cleansing tissues. This product was manufactured originally for one purpose, the removal of cosmetics. Today, as a result of changes in cosmetic practices, women use the product so little for this purpose that the manufacturer, had he been content to rest on the original product use, would have had a declining volume. However, the Kimberly-Clark Corporation, pioneers in this product, soon began to develop new uses, especially in the handkerchief field. A large share of advertising was devoted to promoting the manifold uses of the product, and many people no longer recall that the disposable tissue they buy today was once exclusively the facial cleansing tissue.

A specific application of studies to develop new uses is for leveling out seasonal sales. Examples are developing the use of coffee as a cold beverage to increase summer sales, and promoting the use of lemons for laxatives to increase winter sales.

The research of new uses has its subtleties, too. For instance, the concept of a "new" use should not be limited to some clear-cut change in the manner or purpose for which a product is used. One study showed that a certain food product was served in great preponderance with a certain type of meal. The market was greatly expanded by suggesting other types of meals with which the prod-

uct could be served; in fact, almost the entire advertising for several years was devoted to promoting these "new" uses.

The function of this type of marketing research is discovery and direction. Consumer surveys will often reveal many new uses which had been unsuspected until the research was made. They also may make a major contribution by appraising the value of proposed new uses. Too often promotional money is wasted by being devoted to some use of a product which fires the imagination of the sponsor, but does not have real appeal to the consumer. Only market measurement can determine the potential value of the different use markets.

The researcher is constantly alert to discover changes in habits leading to the increased use of certain types of commodities with which the product on which he is working may be thus associated. For example, if there is an increase in the consumption of certain types of cheese, as recently occurred in the United States, manufacturers of other products which can be associated with the consumption of cheese are presented with an opportunity for aggressive marketing expansion. One soda cracker manufacturer, when he discovered that extensive promotional work was being conducted to increase the consumption of milk, tied in closely with the milk campaign for his own benefit.

**Analysis of Consumption Rates.**—Some of the most revealing marketing researches are those which classify consumers on the basis of the rate at which they consume a given product. Surveys of beverage consumption, for example, classify consumers into "light," "medium," and "heavy" users. When these segments of the consumer market are further analyzed by age, sex, and other classification data, the basic foundation for more accurate direction of promotional efforts and other marketing activities is provided.

A manufacturer of a drug product assumed that his commodity was used rapidly by a relatively small number of users. A field survey showed that the product was used by a very large number of people, but that the consumption per individual was very small. This obviously pointed to the need for developing some marketing strategy which would increase the rate of use by each consumer. On the other hand, a manufacturer of a specialty kitchen cleanser found that the bulk of his sales was to a very few customers who used the product rapidly. His problem was to extend the use, by sampling and other devices, to the large number of prospective consumers who did not use the product at all.

One of the greatest weaknesses of the marketing and distribution activities of many business firms is that they spread their efforts evenly, instead of employing a selective pattern and directing the bulk of the effort against the most important segments of the market. One study revealed that a little over 25 per cent of the consumers accounted for 63 per cent of the total consumption. On the other hand, the "light" users, who made up nearly half of the number of consumers of the product, actually accounted for less than 15 per cent of volume. This pattern is not exceptional. However, it is only after a careful study has been made of consumption rates for an individual product that a company has a scientific basis for properly directing marketing and distribution activities so as to obtain the greatest return on the sales and advertising dollar.

An illustration of one kind of consumption rate data obtained in a recent consumer survey is shown by the following series of questions:

1. Do you happen to remember when you last used them?
2. About how many packages did you buy during the last month?
3. About how many packages would you usually use in a month during the winter?
4. About how many packages would you usually use in a month during the summer?
5. When did you last purchase a package?

Any one of these questions alone would be worthless as a basis for estimating consumption rates. However, in combination they provided a means of classifying consumers accurately for the purposes of the study being made. In addition, they revealed, by cross-analysis, some very interesting data regarding the market. It should be noted that the questions were not asked at one time, but were scattered throughout the interview according to a carefully developed and pretested plan.

**Units in Which the Product Is Purchased.**—Consumers have definite habits regarding the quantity of a commodity which is purchased at any given time. It is important for the manufacturer to know what the typical quantities are in order that he may offer the product in units most acceptable to buyers. Of interest in this connection is the case of a department store which found that it could sell a much larger volume of shirts by offering them in units of three shirts, at a total price only slightly less than the price of three shirts bought separately.



One analysis showed that a certain type of hosiery was bought in units of one, three, and six pairs most commonly, whereas another type was bought by the vast majority of purchasers in units of twelve. With changes in living habits which have resulted in less storage space in the home and with the increase in the purchase of small-unit packages of products, the manufacturer is typically faced with the necessity for making many small individual sales. Some companies have found it possible to increase the unit of purchase by offering multiple units, such as the "Mazda House" package designed by the General Electric Company and the combination packages of individual cereal servings. Consumer researches seek to determine not only what are the customary units of purchase but also what units most profitable for the manufacturer can be readily sold to consumers.

**Customs and Habits Affecting the Use of the Product.**—Just as it is necessary for the sociologist to study the customs which affect people's general social behavior, the marketing researcher must study the customs and traditions which affect the sale of a commodity. Social resistances to the use of certain products, such as chewing gum, may be discovered. Studies which have uncovered the resistance of certain specialized classes of consumers, such as occupational groups, people living in certain geographic areas, and age groups, have proved very productive in showing the way to expand sales by overcoming these resistances. Analyses of seasonal variations in sales, which show the reasons for slumps during certain periods of the year and ways to overcome them, also come within this type of consumer survey.

Many of the important customs affecting the consumption of products are regional in character. The New Orleans market prefers a heavy coffee; morals in certain areas preclude a market for alcoholic beverages; and the relatively cheap household labor in the South mitigates the extensive sale of household appliances. Thus the general living conditions of a region sharply influence markets.

Broad generalizations, particularly those based on memory, are not adequate for understanding the influence of custom and habit on consumption, for new customs are continuously being formed and old ones modified. For example, a recent study of buying habits of farm families revealed that their average monthly expenditures for packaged foods were \$8.617, as compared with \$6.015 for city families.<sup>10</sup>

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<sup>10</sup> *Red and Green Dollar Food Study*, Midwest Farm Paper Unit, 1947.

Sociological studies reveal the strength of customs and habits in influencing buying. The importance of class distinctions should not be overlooked, as it is claimed that less than 10 per cent of the occupants of any given social stratum will reflect tastes characteristic of a different class. An illustration of the way in which social customs affect marketing is the field of rugs and drapes. A recent study shows that upper income families prefer solid color drapes for living-room windows, that middle-class homes generally have drapes with curtains, and that lower income buyers select curtains with intricate designs.<sup>11</sup>

**Consumer Attitudes.**—This type of consumer survey is closely related to the study of the effect of customs on the sale of a product. But it may be regarded as a special field because attitudes toward products change rapidly, in contrast to basic customs which are built up over many years. Many prejudices, some open and some undisclosed, may exist regarding a product, and it is the function of this kind of research to uncover them.

A cigarette manufacturer discovered that consumers in certain sections of the country felt that his product was a "cheap one" because they believed it was consumed by the mass market. A group of public utilities studied the attitude of people toward their services and rates and determined the importance and nature of most common complaints. As a result of the study, it was possible for the utility to engage in a publicity campaign which overcame many of these resistances to reduce the number of complaints by changing the company's operating methods. A study of consumer attitudes toward competitive products will often reveal advantages enjoyed by some competitors which can be equalized or overcome by a change in marketing policy.

Another illustration is a survey of automobile owners which analyzed dealer-customer relations, user reaction to high prices, repairs, and services.<sup>12</sup>

**Shopping Habits of Consumers.**—Buyers are constantly shifting in their preferences for different types of outlets as sources for commodities. The manufacturer must constantly keep abreast of these shifts in order that he may exert his selling efforts on the type of outlet which is expanding and which will produce a large volume of business. The marketing researcher makes studies to determine

<sup>11</sup> "Study Shows Each Social Class Has Distinctive Tastes," report of pilot study by Social Research, Inc., *Advertising Age*, March 22, 1948.

<sup>12</sup> See *Crowell-Collier Automotive Survey No. 11*, New York, Crowell-Collier Publishing Co., 1947.

the changing importance of such types as chain stores, voluntary chains, department stores, and variety stores in the sale of his product. A manufacturer who was not aware of a shift in consumers' buying habits from drug stores to ten-cent stores as a source of certain cosmetics found himself facing restricted sales. On the other hand, one of the most spectacular successes in this field came as a result of recognizing this trend and thereby capitalizing upon it.

Studies of shopping habits of consumers may be divided into three general types. The first embraces those which analyze the flow of trade to certain communities. An excellent example of this

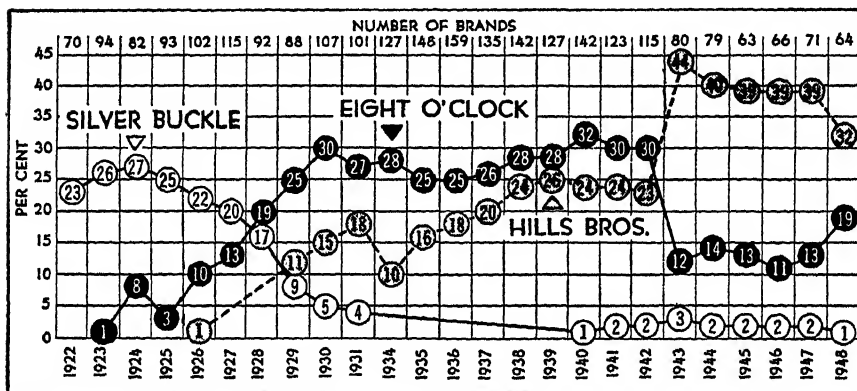


Figure 6. Shifts in Consumer Preference

This twenty-five-year record of consumer preference for three leading brands of coffee indicates the violent shifts in brand position which may occur in a competitive market. Local situations, such as those indicated above, may be completely hidden in national totals. After making an analysis of brand position, research must determine the factors which influenced brand selection. (From *Milwaukee Journal* consumer analysis, reported in *Sales Management*, May 20, 1948, p. 86)

form is the studies conducted by Professor P. D. Converse at the University of Illinois.<sup>13</sup> Professor Converse empirically applied Reilly's Law of Retail Gravitation in a number of markets, showing extent of out-of-town shopping. Development of trading area maps based on shopping habits is an important aspect of these studies.<sup>14</sup>

A second type of shopping-habit study is that which analyzes the type of retail outlet at which consumers trade. Retail distribution is in a state of constant flux, and manufacturers are particularly

<sup>13</sup> P. D. Converse, *Consumer Buying Habits in Selected South Central Illinois Communities*, University of Illinois Business Studies, No. 6, 1948.

<sup>14</sup> See *Market Areas for Shopping Lines*, Curtis Publishing Co., 1947. Also Frank Strohkarck and Katherine Phelps, "The Mechanics of Constructing a Market Area Map," *Journal of Marketing*, April, 1948, pp. 493-496.

interested in discovering the relative popularity of various types of distributing organizations as well as specific outlets in individual markets. An increasing number of newspapers conduct annual researches which show the type of outlet at which consumers in their market buy important types of commodities. In a 1947 survey it was found that the forty-one Great Atlantic and Pacific Tea Company stores had more customers than all the 1,900 independent food stores in Milwaukee combined.<sup>15</sup>

A third form of shopping-habit research studies general consumer habits, attitudes toward retail establishments, and services desired. Shopping days, shopping hours, and patronage motives are subjects covered in this form. One of the most valuable researches in this area studies the reasons for purchasing particular types of items at one store and other items at a different outlet, when both establishments are of the same general character. A department store, for example, researched the shopping habits of consumers in its trading area and discovered why it was missing a large volume in the children's apparel line.

**Brand Loyalty.**—A special type of brand-preference study is the analysis of the extent of brand loyalty or disloyalty by consumers. These researches delve into the length of time consumers use a particular brand, the rate of consumer loss, causes of consumer disloyalty to brands, and the direction of brand changes. Sales figures or total consumer purchase data do not reveal anything about these undercurrent shifts which are continually going on in consumer use of a product.

Some manufacturers discover that their current sales volume is comprised to a startling degree of relatively new users. After this fact is established, it is the job of research to analyze the factors which contribute to this situation, so that proper corrective steps may be taken. Experience has shown that there are a number of different elements which can contribute to low product loyalty, and these elements must be identified and appraised before such situations can be overcome. On the other hand there are certain industries in which a high rate of brand fluctuation is apparently a normal characteristic. In one such field, a manufacturer had been laboring under the delusion that one competitor prospered because he had a great number of loyal users. Marketing research showed that the competitor actually had as high a rate of user turnover as

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<sup>15</sup> *The 1947 Milwaukee Journal Consumer Analysis of the Greater Milwaukee Market*, Milwaukee Journal, 1947.

he did, and pointed to the real reason for his continuous sales success: his consistent advertising had been funneling large numbers of new users to his brand year after year.

By showing, for each brand, its gains from and losses to individual competitors, a brand loyalty study charts the flow of markets in the least common denominator—the individual consuming unit. The competitive sources of new customers in a coffee analysis were as follows:<sup>18</sup>

TABLE 4

Brand	Families Buying Brand This Month	Families Buying This Month Who Did Not Buy That Brand in Previous Month	Per Cent of New Customers This Month
Chase & Sanborn.....	124	58	46.8
Eight O'Clock.....	241	68	28.2
Folger's.....	131	34	26.0
Hills Bros.....	147	37	25.2
Maxwell House.....	239	90	37.6

When the quantitative statistics on the amount of brand loyalty and disloyalty are complemented by a searching analysis of reasons, this type of study contributes greatly to marketing policy. A consumer research among "brand switchers" revealed a great deal about the market for a certain product, particularly in relation to product characteristics of composition, flavor, and price. The result was that the client was shown the necessity for introducing a new variation of the product in order to obtain maximum sales volume.

**Research of Special Consumer Groups.**—Studies of particular consumer groups which have both a special bearing on the marketing of a product and sufficiently unusual characteristics to make them worth special consideration are rather common. One advantage of this type of study is that it is specific and its value is readily comprehended by sales management. By concentrating on a particular marketing segment, the problem is also generally simplified.

It is not good practice, however, to make special group studies if the company does not have an adequate basic consumer survey. In the first place, too much attention is given to a minor factor in marketing success. Special-segment studies may very well prove a

<sup>18</sup> H. L. Churchill, "How to Measure Brand Loyalty," *Advertising and Selling*, August, 1942, p. 24. See Figure 39, page 586.

distraction from more important matters. Moreover, special-group studies gain most of their meaning when they can be accurately analyzed against the background of a basic marketing research.

An example of a study of a special consumer group is the Negro market. Many researches in this important field, both by manufacturers and publications, are now being made.<sup>17</sup> Important subjects of special consumer-group research include the farm market, the home-building market, and the juvenile market. A growing number of manufacturers are making special studies of the market for their products among children from five to nineteen years of age. Because adults operate business enterprises, manufacturers are likely to overlook the importance of children as direct influences in their markets, unless their product is used almost exclusively by children. Many of these surveys of special groups are concerned with a limited market segment, such as new families, or with a very limited age bracket, such as the "teen-agers."<sup>18</sup>

Surveys of special groups employ the general methods of all consumer surveys, but experience on the part of the researcher in the special field will yield added value. In surveying children, for example, there are a number of special interviewing problems which arise, and experience in solving them is a great asset.

**Surveys of Local Markets.**—Surveys of consumers in individual markets provide a source of marketing information which is particularly valuable in connection with correcting weak spots in the marketing and distribution picture and stimulating the sales and advertising organization. These studies, which are made continuously by many of the larger business firms, give them a definite competitive advantage. The local market study highlights special conditions and is usually more comprehensive in the amount of information obtained than the national consumer survey. On the other hand, a number of manufacturers follow a policy of using streamlined local research questionnaires which obtain a limited amount of data most economically, and are thus in a position to cover more key market situations more frequently than they otherwise could.

An example of local market studies which go into great detail are those employed by the Frigidaire Division of the General Motors Corporation. This firm makes it a regular practice to conduct

<sup>17</sup> *The National Negro Market*, Interstate United Newspapers, Inc., 1947, and Edgar Steele, "Some Aspects of the Negro Market," *Journal of Marketing*, January, 1947, p. 399.

<sup>18</sup> See *New Families—New Markets 1940–1950*, Curtis Publishing Co., 1946. Also *Scholastic Magazines Market Survey*, Scholastic Magazines, 1948.

in each of its key markets extremely penetrating studies which provide management and the district sales organization with valuable ammunition in the form of marketing facts.

The bulk of local market studies of a general nature are made by leading newspapers in the various markets. A type of study pioneered by the *Milwaukee Journal*, and operated continuously by them for twenty-five years, is now available from newspapers in a number of markets on an almost completely standardized basis, including the following:

*Milwaukee Journal*  
*Philadelphia Bulletin*  
*Indianapolis Star*  
*Omaha World-Herald*  
*St. Paul Dispatch-Pioneer Press*  
*Sacramento Bee*  
*Columbus Dispatch*  
*Seattle Times*

In some markets pantry inventories are available.<sup>19</sup> Special subjects are frequently studied, such as the market in a given locality for frozen foods.<sup>20</sup> Studies of groups of markets in a homogeneous region are a further example of local market surveys. These are frequently made by manufacturers and also by advertising media.<sup>21</sup>

**Basic Economic Analysis of the Consumer Market.**—A phase of consumer marketing research which is growing in importance is the study of broad economic situations affecting markets, such as shifts in income and earning power of various segments of the population. For many years this type of study was regarded as belonging to the theoretical marketing student, to public agencies, and to a few interested publications whose audiences represented particular economic classes; the rush to do research more directly on the immediate and special marketing problems of the individual company precluded paying much attention to these broader studies. Today just as management is showing increased interest in general economic and social research, so it is paying more attention to the broader economic studies which come within the particular interest of marketing and distribution research.

Perhaps the most significant of these studies are those dealing with the distribution of income and shifts in this distribution. The

<sup>19</sup> *Continuous Consumer Pantry Inventory*, Pittsburgh Sun-Telegraph, 1946.

<sup>20</sup> *The Philadelphia Frozen Food Market*, Frozen Food Institute, 1947.

<sup>21</sup> See, for example, *How 3½ Million Illinois Consumers Buy*, Illinois Daily Newspaper Markets, Inc., 1946.

U. S. Bureau of Labor Statistics and the Bureau of the Census are the basic governmental sources for data on income distribution. In recent years there has been a great amount of interest in this subject, and new data are continually being made available.<sup>22</sup>

The subject of expendable income and analysis of expenditures is a matter of particular interest, particularly in terms of expenditures beyond those for basic cost-of-living necessities. The term "discretionary buying power" is employed to describe the excess of income over the amount needed to maintain the basic standard of living, which is the amount available for purchasing goods in which a considerable amount of option may be exercised by an individual or family. Some of the most useful developmental work in this area has been done by Everett Smith, of the Macfadden publications. The growing literature on the subject attests to its value and provides the marketing researcher with increasingly accurate and useful data. The following materials are suggested:

"This Changed America," Macfadden Publications, 1947.

"Notes on Savings in Relation to Potential Markets," *American Economic Review*, December, 1946, pp. 891-901.

Harold Lubell, "Effects of Redistribution of Income on Consumers' Expenditures," *American Economic Review*, March, 1947.

Daniel Starch, "68 Per Cent of U. S. Families Received 65 Per Cent of National Income in 1946," *Advertising and Selling*, March, 1947.

Lawrence L. Vance, "The Interpretation of Consumer Dis-saving," *Journal of Marketing*, October, 1947, pp. 243-249.

*Family Spending and Saving in Wartime*, U. S. Bureau of Labor Statistics, Bull. 822, 1945.

This subject is very complex, with a special literature. These suggested readings are given in place of an extended discussion, which is not possible within the confines of a general book on marketing research.

An illustration of the dynamics of changes in income distribution is found in the following:

Since 1939 (to 1947), the middle-income group has risen from 26.3 per cent of total families to 48.9 per cent; salary and wage payments from \$42.2 to 105.2 billions (1946). . . . Estimates for a hypothetical executive's family of four and a wage earner's family of the same size indicate a drop in the discretionary spending power of the former from \$1,365 in 1935-6 to \$1,079 on January 1, 1947, whereas the latter increased its discretionary spending power from \$504 to \$756.<sup>23</sup>

<sup>22</sup> See *Recent Trends in the Distribution of Consumer Income*, Philadelphia, Curtis Publishing Co., 1947.

<sup>23</sup> *This Changed America*, New York, Macfadden Publications, Inc., 1947.



Basic economic research in marketing goes beyond analysis of income distribution to include studies which broadly analyze the marketing significance of various income levels. In addition to economic class analysis, studies of groups by age, occupation, and other classifications provide information of help in forming marketing policy.<sup>24</sup>

Analysis of discretionary buying power goes much deeper than the data on total income payments to individuals or on disposable income, which are severely limited in their value for marketing research.<sup>25</sup> One of the most exhaustive approaches has been developed by Joseph H. White, who has made projections of the effect of shifting income and price levels on discretionary purchasing. White's procedure involves the "stripping off" of expenditures through successive levels of spending power. It thus provides a stratification for applying basic economic data to discover marketing opportunities for various broad types of products within various purchasing power strata.<sup>26</sup> His eight levels are based on an analysis of changes in discretionary purchases with increasing income, as indicated by the following table:<sup>27</sup>

TABLE 5

	Percentage Change in Expenditure for Each 10% Change in Income
Food, at home.....	2.22
Rent, for renters.....	4.97
Food, away from home.....	7.18
Household operation (except servants).....	7.47
Housing cost, for home owners.....	10.00
Men's, women's and children's staple clothing.....	4.50 to 7
Men's and women's coats, suits, and dresses.....	10.50 to 13
Household furnishings.....	9.89
Personal auto transportation.....	11.56
Furs.....	15.53
Domestic servants.....	18.68

One of the outstanding contributions to broad economic analysis of the consumer market in recent years has been the work of the

<sup>24</sup> See *The Influence of Education and Age on Earning Power*, Philadelphia, Curtis Publishing Co., 1947.

<sup>25</sup> See Arno H. Johnson, "Market Potentials, 1948," *Harvard Business Review*, January, 1948.

<sup>26</sup> Joseph H. White, "Discretionary Spending Power at Multiple Levels," *Journal of Marketing*, July, 1948, pp. 1-11.

<sup>27</sup> Joseph H. White, "How Will Changing Price and Income Levels Affect You?" *Sales Management*, July 15, 1947.

Twentieth Century Fund in its study of *America's Needs and Resources*, conducted under the supervision of J. Frederic Dewhurst.<sup>28</sup> This is one of the most thorough basic sources on the economics of consumption in the United States, and is of great value to the marketing researcher. Its usefulness is indicated by the following list of a few of the many subjects on which specific data are given:

Population, Families and Dwelling Units in the United States, 1900–1940.

Utilization of Mechanical Household Appliances, 1925–1942.

Consumption Outlays for Household Equipment and Operation, 1909, 1929, and 1940.

Trends in Railroad Passenger Travel, 1900–1940.

Family Expenditures for Transportation, 1935–1936.

Estimated Per Capita Consumption of Certain Foods by the Civilian Population, 1940–1943.

Estimated Recreational Expenditures to Meet Needs and Demand in 1950 and 1960 Compared with 1940.

Estimated Consumption Expenditures in 1950 Compared with 1940 and 1941 Expenditures.

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<sup>28</sup> J. Frederic Dewhurst & Associates, *America's Needs and Resources*, Twentieth Century Fund, 1947.

## CHAPTER 5

### INDUSTRIAL AND INSTITUTIONAL MARKETING RESEARCH

The application of marketing research methods to the industrial and institutional markets requires essentially the same scientific procedures as those discussed throughout this book. As a matter of fact, a common weakness of research in these fields is the failure to apply procedures developed in consumer-goods research. Some individuals have overemphasized the differences to such an extent that at times research in industrial and institutional marketing has been made unnecessarily costly and complicated. For example, the need for a special type of interviewer has been greatly exaggerated. In one instance, part of the field work in an industrial study was turned over to a consumer interviewing staff, with the surprising result that the work was not only conducted much more economically, but also the regular consumer interviewers obtained more useful information than did the industrial specialists.

However, there are basic differences between the markets for industrial and institutional goods and those for consumer products which do call for different emphasis and adaptation of techniques. The total number of possible consumers of an industrial product is much smaller. A still more important consideration is the great contrast in the relative importance of individual consumers. In fact, in many industrial markets less than a half dozen firms represent the lion's share of the market. Furthermore, the industrial market is generally much more complicated. For these and other reasons, the procedures and techniques require considerable adaptation, and are discussed at some length in this chapter.<sup>1</sup>

The institutional market, such as hotels, building concerns, and governmental units, is one of the greatest potential outlets for products of all kinds, including those which are primarily consumers' goods. These opportunities are often overlooked because it is only one phase of the business.

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<sup>1</sup> See William J. Stokes, "Research ABC's for Exploring the Smokestack Market," *Sales Management*, July 15, 1948, pp. 106-111.

Examples of the application of marketing research techniques to the institutional market are the following:

*The Tourist Court Market*, by Tourist Court Journal, 1947.

*The Hotel Market*, by John Willy, Inc., 1947.

*The Light Construction Industry*, by American Builder, 1947.

*A Survey of the Requirements of Hospitals*, private study.

*The Market for Automotive Products in Municipal Governments*, private study.

As the techniques used for analyzing the institutional and industrial-goods market are essentially the same, the balance of this chapter is written in terms of the latter. However, the applicability of the procedures to the institutional market should be kept constantly in mind.

**Importance of Industrial Research.**—The importance of marketing research to companies selling products to industry is emphasized by the growing appreciation of the fact that industrial business is going more and more to those manufacturers who study the rapidly changing requirements of their customers and adapt their products and sales efforts to those requirements. The railway industry, for example, realizes that the future will bring an era of fundamental change, and expenditures for equipment and supplies will need to be adapted to changing conditions, rather than being spent in routine fashion.<sup>2</sup> Increasing numbers of companies selling to all kinds of industrial markets are finding research essential to effective marketing.<sup>3</sup>

Because of the large amount of direct selling involved in the marketing of industrial products, it is sometimes erroneously assumed that distribution costs are necessarily low. Experience has shown that opportunities to improve the efficiency of marketing industrial products and to eliminate distribution wastes are plentiful. Marketing research has paid healthy dividends for many manufacturers of industrial products. When the study is skillfully conceived and executed, results have often been more decisive and immediately profitable in the industrial field than in that of consumer goods.

**The Industrial Research Program.**—In applying marketing research to industrial products, it is important to have a well-planned

<sup>2</sup> See *The Post-War Railway Market for Manufacturers*, New York, Simmons-Boardman Publishing Co., 1944.

<sup>3</sup> See P. S. Ellison et al., "Sylvania Electric Shows How Marketing Research Pays Its Way," *Industrial Marketing*, October, 1946, pp. 42 ff. See also J. G. Park, "How Chemical Market Research Functions," *Industrial Marketing*, June, 1947, pp. 49 ff.

program whereby the particular aspects of the marketing problem to be researched are identified and a plan for assigning time and effort to the various phases is definitely established.<sup>4</sup> The complexity of industrial markets makes this approach essential.

Of course, a general market survey is an essential part of such a program. For example, market survey for pumps might embrace such subjects as the types of pumps being offered to the market, their uses, buyers, channels of distribution, policies of the various manufacturers, buying influences, and the competitive position of the larger manufacturers.<sup>5</sup> This type of general survey may be restricted to a particular segment of the market, such as the "Survey Report on Power Industrial Trucks in the Metalworking Industry."<sup>6</sup> This survey provided a basic starting point; the number of industrial trucks used in metalworking and metalproducing plants was determined and classified according to type of power employed and by type of industry.

An indication of the various elements which may well be considered for the industrial marketing research program will be found in the results of a survey which shows the most important functions of the marketing research department in the industrial concern.<sup>7</sup> Comparable information for manufacturers of consumer goods is also shown, in order that the similarities and differences in emphasis between the two groups may be readily seen. (See Table 6.)

**Industrial Product Research.**—Research relating to the development, design, and manufacture of new products or the revision of old ones is an important aspect of industrial marketing research. This subject is treated in Chapter 3.

Industrial products are usually more complex and offered in greater variety than are consumer products. Furthermore, buyers are in a position to be much more aggressive and particular. Having designs which exactly fit the requirements of a particular industrial use is common, and since there are such a large number of potential customers for any given type of product, with varying requirements, a great deal can be learned from industrial product research which will facilitate sales. Studies which determine the characteristics and

<sup>4</sup> See Wroe Alderson, "An Outline of Market Research Procedure for Industrial Products," *Industrial Marketing*, November, 1945, p. 46. *Industrial Marketing* has a regular department feature, "Index to Research," which gives references to many current examples of industrial research activities. See also the *Bibliography of Industrial Marketing*, prepared by the Committee on the Teaching of Industrial Marketing of the American Marketing Association, 1947; and K. G. Fuller, "Organizing for Industrial Marketing Research," *Industrial Marketing*, December, 1946, p. 39.

<sup>5</sup> *Pump Marketing Study*, New York, McGraw-Hill Publishing Co., Inc., 1946.

<sup>6</sup> Published by *Iron Age*, 1947.

<sup>7</sup> National Industrial Conference Board, *Organization for Market Research*, Studies in Business Policy, No. 12, 1945, pp. 12 and 17.

TABLE 6  
MOST IMPORTANT FUNCTIONS OF THE  
MARKET RESEARCH DEPARTMENT \*

Companies Manufacturing Industrial or Commercial Parts or Equipment	Companies Manufacturing Consumer Products
<p>Estimating potential sales (general)  New product development (nonengineering)  Analysis of consumer market (including industrial)  Competitive position of company's products  Customer preferences  Competitive conditions in markets  New uses for old products  Estimating demand for new products  Market analysis by customer  Price structure  Improvement of present products  Relative profitableness of markets  Choice of advertising media  Relative distribution costs and profits of products  Market analysis by areas  Analysis of potential of new market areas  Analysis of potential of old market areas  Analysis and interpretation of general market data  Discounts  Sales methods or distribution policy  Dealer relations  Sales compensation  Distribution costs  Selection of distributive channels</p>	<p>Analysis of consumer market  New product development (nonengineering)  Competitive position of company's products  Estimating potential sales (general)  Sales methods or distribution policy  Market analysis by areas  Customer preferences  Improvement of present products  Pretesting of new products  Analysis of potential of old market areas  Advertising policy  Relative distribution costs and profits of products  General business forecasting  Establishment of sales territories  Establishment of sales quotas  Relative profitableness of markets  Market analysis by customer  Sales compensation  Distribution costs  Sales methods or devices  Advertising and selling practices in relation to competitors  Selection of distributive channels  Analysis of wholesale market  Estimating demand for new products  Analysis of potential new market areas  Analysis and interpretation of general market data  Price structure  Public relations  Sales training</p>

\* Based upon the reports of companies as to the three functions considered as most important to their work.

specifications of products required by various segments of the industrial market can almost always increase profits. Comparatively slight adaptations in product design, resulting from marketing research, have greatly expanded the market for a number of industrial manufacturers.

Industrial product research frequently shows that there is not a large enough market to warrant the production of a proposed new product. An example is a case in which an industrial manufacturer

had a subsidiary which made specialized precision instruments during World War II. Planning in terms of the future, the subsidiary developed a new product to market in peacetime, engaged an industrial designer, and set up a complete sales and advertising structure. The parent company, before it would invest the large sum of money required for going into production, insisted that a marketing research be conducted. The resulting study proved that the proposed new product could not stand up against competition and could not hope to achieve a volume which would warrant its production. Analysis of competitive products, interviews with potential users, and demonstration of the product provided the evidence. In this case it was unfortunate that marketing research was not called upon sooner, as much time and money could have been saved, and the firm could have been directed to products for which there would have been profitable marketing opportunities.

**Classification of Industries.**—Manufacturers of industrial products frequently overlook sales opportunities because they are not aware of the relative importance of different industries which can use their products. Sometimes entire industries, relatively minor as individual units but offering rich market opportunities, are missed because they are hidden in the broad picture. Another value of classification studies is that through their appraisal of industry potentials they show how sales effort should be apportioned to each class of customer. Frequently those types which, through casual observation or traditional selling methods, are considered important turn out to be relatively minor factors in the market for an industrial product.

A study of industry classification determines the type and size of establishments in all categories which are potential users of the various products made by an industrial manufacturer. In one study it was found that financial institutions, which appeared to offer one of the best potential markets for a certain product, were not worth special cultivation until their assets ran over \$100,000,000.

Classification studies develop specific limits of marginal customers and show the size of firm below which cultivation is not warranted in any given type. In many cases it is possible to develop precise classifications and to estimate the amount of sales and advertising effort which can most profitably be put against each classification.

After the industrial users of a given product have been identified by type and their potential value determined by the research, the next step is *classification analysis*, which breaks them down by geographic

area and other marketing units. When compared with actual sales performance, this analysis measures the amount of effective sales coverage of various types of prospects by specific geographic markets, and often reveals rather startling facts, as suggested by the following:

On the wall of many a sales executive's office hangs a map of sales territories. Studded with map-tacks, it pin-points distribution. At LeTourneau, such a map was changed one day to pin-point product-in-use data. A glance told the story of spotty distribution in terms of owners. Closer scrutiny provided real shocks. Prepared from owner lists, the map revealed that geographic areas in which no LeTourneau sales had been made outweighed the areas where sales had been made.<sup>8</sup>

A final step is the analysis of individual firms. In any given industrial market there is a great variation in the potential sales prospects represented by individual customers. Generally relatively few prospects can account for a large share of potential volume. An effective classification study identifies these specific prospects and develops detailed information regarding each firm which can be of great value in building sales among key prospects.

Because of the complexity of these industrial markets, a good deal of reliance must be placed on published sources of information as well as field surveys. The basic source of data is the U. S. Census of Manufactures. The McGraw-Hill Publishing Company provides market identification charts which help to analyze market classifications in connection with identifying and rating various fields, as well as determining buying influences and defining outlets of distribution.<sup>9</sup>

Classification of industries is the foundation of sales potentials for industrial products. It is an arduous task to go through the complicated fabric of American industry and pick out those fields which offer a significant potential for any given product. After the fields have been identified, it is then necessary to evaluate the potential in each one. This is done in one of two ways, either by field surveys or by statistical analysis. The field surveys are conducted by investigators who interview representative prospective firms to learn their requirements for a given product. These figures are then projected from this sampling to obtain total potentials for various types of industrial users. If statistical analysis is relied upon, certain

<sup>8</sup> Robert C. Judd, "How LeTourneau Sweetens Sales Trainee Investment," *Sales Management*, June 1, 1948, p. 118. For an example of a general classification of users, see *Industrial Distribution and Marketing*, published by Mill Supplies magazine, 1945, p. 64.

<sup>9</sup> See Anglo R. Venezian, "Check Chart for Identifying Your Markets and Buyers," *Printers' Ink*, December 20, 1946.



data, such as data on number of employees, are used as an index factor, on the basis of which potential is spread to industries, geographic areas, etc.<sup>10</sup> The methods of applying these index factors are described in Chapter 9. Generally the most satisfactory method of establishing industrial sales potentials is to use a combination of the field survey method and the statistical analysis method.

The detailed analysis of sales potentials for industrial products is one of the most fruitful forms of marketing research. The Sterling Tool Products Company found that it was necessary to obtain greater cooperation from distributor salesmen in promoting the company's products, and got the key by obtaining sales potential data which established realistic sales quotas. Using a study of the distribution of industrial supplies, made by the American Supply & Machinery Manufacturers Association, the company found the following situation:

To start with, they made a test case of the state of Illinois. In the survey, they noted that 89 other manufacturers reported they did an average of 6.20% of their industrial business in the state of Illinois.

. . . In the city of Chicago, 86 of the total 89 manufacturers reported that they did approximately \$5,000,000 worth of industrial business, which represented 5.26% of the total nation's industrial business.

In looking up their sales figures for the state of Illinois, for the year 1945, they found that this state represented 8.75% of their total industrial business. In the city of Chicago, on the other hand, they actually did only 4.20% as compared to the Association's 5.26%. When comparing the Survey figures to their own, it became evident that they did more of their business in the state of Illinois than the average of other industrial manufacturers, but they did proportionately less in the city of Chicago.

In analyzing the results this company obtained from the preliminary analysis for the state of Illinois, it was revealing for them to find that while their sales were below average in the larger industrial cities, they were above the average for the state as a whole. . . . This situation clearly showed that they were expending too much effort in the smaller industrial areas and not enough in the larger ones. Their conclusion was a logical one. Through the system of sales quotas they increased their sales emphasis in the larger areas.<sup>11</sup>

**Analysis of Factors in Buying.**—One of the most important forms of marketing research in the industrial field is determining the types of individuals who influence the purchase of industrial equipment and supplies, and appraising the importance of each factor.

<sup>10</sup> See Arthur H. Dix, "How Industrial Marketers Can Spot Undernourished Sales Areas," *Printers' Ink*, March 26, 1948.

<sup>11</sup> John I. Dean, "Establishing Sales Quotas," Industrial Marketing Case Study No. 2, Industrial Marketing Committee of the American Marketing Association, 1948.

A machinery manufacturer, for example, finds that many different persons are involved in the decision to buy his product. The purchasing agent has his ideas. The treasurer of the company must be convinced that a proposed machine is a good investment; and in many cases his opinion may be the most important individual factor. Many executives, holding different managerial positions, are also interested. But the operator of the machine, the foreman, the maintenance man, and others may have a good deal to say about the machine from the point of view of production.

These factors cannot be properly appraised by tradition or by some arbitrary classification. Both the degree and the manner in which each factor influences buying vary from industry to industry. It is the job of marketing research to analyze these buying influences for the industrial seller.

The place of the analysis of buying factors in the industrial research program is indicated by the following:

It is the task of the marketing or sales function in an organization selling to these markets (industrial)—

1. To define the buying units to which the selling effort for the product or line is to be directed, and definitely list these by name and location, with such other supplementary data as might be required for intelligent selling effort.
2. To determine by name and responsibilities, function or title, the individual or individuals who enter into the purchase transaction for the product at any point of the purchase transaction, and who must be contacted in order to consummate the sale.
3. To develop a sales plan that will reach these units and the individuals to be contacted most economically and most effectively, and will assure adequate sales coverage.

Defining and locating the buyers and the buying influences is the basis of all sales activity. Where to go, whom to see, is an ever-present problem faced by the salesman no matter whether he calls in person or through the printed word. The right place, the right man, and the right time are the three R's of sales success.<sup>12</sup>

The following quotation indicates the frequency with which a number of persons influence the buying decisions, hence the primary importance of this type of analysis in the field of industrial products:

The number of persons in buying organizations who function in the purchase of plant equipment and supplies ranges from one to nineteen. The

<sup>12</sup> Rudolph W. Staud, *Defining and Locating the Buyer and the Line of Buying Influence*, American Management Association, Industrial Marketing Series, I. M. 13, 1931, p. 2.

average for all transactions studied in this survey is practically five (4.8). In less than one per cent (0.7%) of the transactions were all of the buying functions performed by one individual. In only 9 per cent of the transactions were two individuals involved. Three persons functioned in 29 per cent of the transactions, four in 26 per cent, five in 13 per cent and six or more in 22 per cent.

In the purchase of products costing less than \$1,000 the number of people who functioned in buying ranges from two to ten and the average is 3.6.

In the purchase of products costing more than \$1,000 the number of persons who functioned ranged from one to 19 and the average is almost six (5.8).

In small companies the average number of individuals who functioned in buying is 3.5, in medium-sized companies, 4.8, and in large companies, 5.3.<sup>13</sup>

The importance of analysis of buying factors is further emphasized by the Continuing Study of Industrial Buying Practices and Needs, sponsored by the National Industrial Advertisers Association. The goals of this study have been described as follows:<sup>14</sup>

1. How did the need for the equipment, material, or component part originate? By whom was it first recognized?
2. What types were considered, and by whom? What sources of information were sought and used?
3. What factors governed the selection of the type; by whom was selection of the make; by whom was the type selected?
4. What makes were considered and by whom?
5. What factors governed the selection of the make; by whom was the make selected?
6. What sources of information were sought and used at each step?
7. What number of buying company individuals, and supplier company individuals participate in each purchase?
8. What was the elapsed time from first recognition of need until the order was placed?

**Research of Industrial Channels of Distribution.**—Because of the large volume of direct sales in the industrial field, the importance of dealers and other middlemen is frequently overlooked. The emphasis on personal contact has led to archaic distribution channels in many lines; meanwhile the increasing complexity of American industry has brought increasing complex distribution procedures. For these reasons the analysis of channels of distribution has become a fertile field for industrial marketing research. Many industrial dealer organizations need thorough renovation on the basis of facts instead of continuing to rely on traditional selling channels.

<sup>13</sup> *Who Buys for American Industry?* survey made by R. O. Eastman, Inc., 1927.

<sup>14</sup> "N.I.A.A. News," *Industrial Marketing*, April, 1948, p. 129.

Distributors in the various industrial lines have distinctive characteristics, not only for the various types of products handled, but by geographic area, type of market covered, and various other factors. To take an obvious set of distributors, based on the general type of merchandise handled, will usually result in very weak organization. Furthermore, distributors vary a great deal in aggressiveness, in their selling resources, and in their ability to work effectively on individual products.

This is an extremely complex field, and only by painstaking research which probes deeply into the business methods of individual distributors of industrial (and institutional) products, is it possible to weed out the inefficient and have a lively distributing setup. In the mill-supplies field alone, for example, there are some 1,678 main-house industrial distributors, with 508 branch houses. The lines handled by these distributors make a complex pattern which illustrates the difficulties in properly planning the distributing organization for a given manufacturer.<sup>15</sup>

The operating sales department, in spite of the vast knowledge regarding distributors which its personnel usually possesses, is in no position to undertake an analysis of industrial channels of distribution. The day-to-day pressure of calling on the trade and of performing the many auxiliary functions with which selling is now burdened, and the constant pressure for sales accomplishment, keep the regular sales organization fully engaged. Any broad analytical effort made by them is done superficially as a distasteful, odd job by persons not trained in this function.

The typical industrial-goods manufacturer makes a variety of products, most of which are usually related in manufacture and often in distribution. There is a common tendency to use traditional channels of distribution, with the result that some products fail to obtain their full potential sales volume. A manufacturer of paper products, for example, sold the bulk of his volume through a certain type of paper distributor. As new products came along, the easiest selling means was through the established trade connections. Distribution research, however, showed how direct selling was necessary for certain items and, in some cases, where different types of distributors were necessary. This manufacturer was not even aware of the existence of one important type of distributor uncovered in the research. The basic distributing problem was resolved by an organized pattern which gave the manufacturer clear channels to his markets.

<sup>15</sup> See "Industrial Distribution and Marketing." *Mill Supplies*, 1945, p. 75.

Another illustration of the use of marketing research in a study of channels of distribution for industrial products is that of the Rockwell Manufacturing Company. The scope of this research is indicated by the following outline:<sup>16</sup>

1. Analysis of the market for the pump.
2. Review of the company's present methods of distribution.
3. Analysis of competitors' methods of distribution, including applications and scope of operations.
4. Consideration of each accepted method of distribution in the light of the product's application and possible idiosyncrasies of diverse markets.
5. A carefully considered estimate of the market potential for the pump in terms of territory coverage.
6. Detailed analysis of proper coverage costs and potential profitability of each accepted method of distribution.

**Research of the Manufacturer's Sales Organization.**—Research of the industrial manufacturer's own sales department has often resulted in more competent personnel and better internal organization. Specific examples are studies of centralization or decentralization of sales control; procedures for selecting, training, and compensating salesmen; developing the selling plan; and organizing sales territories.<sup>17</sup>

In the case of an electrical equipment manufacturer who had sold his product through agents, a marketing research determined that a direct sales force was essential in key areas. The research was then broadened to provide the basis for planning the entire organizational effort. The number of salesmen, the type required, and the standards for their selection and training, were determined by means of research. The findings of the analysis were also employed as a basis for planning the sales organization, developing sales incentives, and improving methods of supervision and control of salesmen. Industrial sales organization research has provided the basis for the development of sales control records based on the requirements of the potential customers and their value as prospects. It has also been employed as a foundation for developing a complete sales training manual.

<sup>16</sup> A. C. Daugherty, *Selecting Channels of Distribution for a New Industrial Product*, Industrial Marketing Case Study No. 3, Industrial Marketing Committee of the American Marketing Association, 1948.

<sup>17</sup> See B. Lester, *Sales Engineering*, New York, John Wiley & Sons, Inc., 1940; also, E. J. Bengel, "Successful Sales Planning," *Industrial Marketing*, May, 1946, p. 43, and G. R. Salisbury, *A Basis for Establishing Industrial Sales Territories*, U. S. Department of Commerce, Domestic Commerce Series No. 60, 1932.

Out of any sales organization research designed for an industrial manufacturer should come a sales program which provides for the continuous development of information by the sales personnel about prospects and the market itself. Some sort of territorial development plan, based on a system of current reporting on unsold prospects, competitive activity, and volume opportunities, can be a most useful tool. Continuous review of progress of the territorial development plan not only increases the efficiency of sales efforts in various territories, but also keeps the entire sales organization on its toes. The construction of this plan should be in the hands of the research organization, which has not only the facts on which to build it at first hand, but also the objective point of view which will give the program realistic goals. Of course, the marketing researcher should work closely with the sales personnel during the period in which the program is being developed, as he must know their strengths and limitations, and sell them, step by step, on the value of the program for each territory as it is being devised.

**Buying Motives, Advertising, and Sales Promotion.**—In the industrial and institutional markets, the application of research to the analysis of buying motives provides a much-needed foundation for advertising and promotional copy. One reason for the importance of such studies is that motives for buying a given industrial product or service vary greatly as between different buyers or buying influences. A piece of machinery which is used in a variety of industries must usually be sold to different industries on the basis of differing appeals. Furthermore, the president of the company, the engineer, and the treasurer have different attitudes and interests as they consider the purchase of an industrial product.

In a study for the Ingersoll Koolshade Sun Screen, a device designed to keep out direct rays of the sun as well as insects, twenty-five sales appeals were analyzed to determine their relative strength in different segments of the market. The varying importance of some of the appeals is illustrated in Table 7. The illustration is chosen because it contrasts the effectiveness of identical appeals to two groups, residential architects and hotel managers.<sup>18</sup>

The analysis of industrial and institutional buying motives, in addition to forming the basic foundation for advertising copy, provides an essential element in sales strategy. A well-known principle of effective selling is to gear the sales presentation to the funda-

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<sup>18</sup> Roland D. Doane, "The Role of Research in Launching a New Product," *Industrial Marketing*, April, 1940.

TABLE 7

	Residential Architects Per Cent	Hotel Managers Per Cent
Shades window from sun.....	52	*
Saves expense of awnings.....	52	*
Keeps room cool.....	50	90
Smart appearance.....	48	85
No summer air conditioning needed.....	43	100
Lowers cost of air conditioning....	39	80
Saves inconvenience of awnings....	40	*
Wire will not sag or bulge.....	38	*
Good vision looking out.....	22	*
Added privacy.....	5	85
Prevents fading of furnishings.....	*	80

\* Relatively unimportant in their opinion.

mental interests of the prospect. Research of buying motives provides the sales manager with a basis for preparing an effective basic sales presentation, and aids greatly in training salesmen to use the proper sales approach. When salesmen understand the relative importance of various motives to the many different types of customers, they make more effective sales solicitations.

Research is applied directly to industrial advertising in many different ways. Studies are designed to provide the basis for broad campaign strategy and for media selection, to increase the effectiveness of individual advertisements. An illustration of a broad research program, based on analysis of inquiries to keyed copy for a machine-tool manufacturer, is shown by the following outline of the objectives of the research:<sup>19</sup>

1. What direct mail copy was most profitable?
2. Which trade paper copy was most productive?
3. Which mailing lists were most productive?
4. Which publications were most profitable?
5. How did direct mail compare with magazines in profitability?
6. What is the mean time lag between inquiries and orders?
7. Are accounts opened with the aid of advertising as profitable as those opened by other means?

<sup>19</sup> Charles Margolis, "Traceable Response as a Method of Evaluating Industrial Advertising," *Journal of Marketing*, October, 1947, p. 205. The article is a case study and shows specific results as well as principles developed.

The techniques for copy and media research in the industrial field are essentially the same as those employed in consumer advertising research. (See Chapters 11 and 12.) Greater emphasis is placed on specific segments of the market. Because of the importance of special forms of advertising media, such as direct mail and catalogs, many detailed studies are frequently made to pin-point the research. The Continuing Survey of Preferences in Industrial Literature is a research project which covers a number of specific subjects of interest to all industrial advertisers.<sup>20</sup>

### Industrial Research Techniques

As has been previously pointed out, the differences between marketing research procedures employed in industrial marketing research and those employed in consumer research are often over-emphasized. However, there are a number of special considerations in connection with procedures in the industrial field which must be recognized by those who conduct industrial research.

**Background for the Research.**—In industrial marketing research it is usually necessary to build a broad, general background for the analysis because of the complexity of the market. While industrial research projects are often confined to relatively small, clearly defined problems, the researches frequently call for a considerable amount of exploratory work before a well-defined procedure for the major analysis can be established. The situation analysis requires much greater emphasis. The individuals conducting the research should have a broad background, for knowledge of a specific type of information, which may be available from some governmental or trade association unit, may play a significant part in the study. The sources of data applicable to industrial research are extremely complex and must be thoroughly explored. Each industrial market has its own peculiarities, and the researcher must become thoroughly familiar with many details. At the same time, the development of this broad background must serve as a guard against becoming "lost in the woods" of details which are likely to warp the research if the ground has not been thoroughly explored before the major research project is launched.

**Sampling.**—While the basic principles of sampling for marketing research apply to the industrial field, the number of interviews is

<sup>20</sup> See *Continuing Survey of Preferences in Industrial Literature*, Report No. 4, Edward Stern & Co., 1947.



generally fewer than for a consumer study. The individual interview generally has greater importance in the industrial field, so the sampling is based on share of total volume represented, rather than on number of cases.

The industrial sample is usually a built-up sample rather than a distributed one. In a built-up sample individual cases are first identified, then it is determined whether it is necessary to include them in the sample because of their size, geographic location, type of firm, or other characteristics. Step by step, the various segments in the market are examined, and cases are selected for inclusion in the sample because of their representativeness of a particular segment of the market. Within each segment it is necessary to obtain adequate coverage, but frequently this coverage is based on the percentage of total volume represented, rather than on the number of firms.

**Tabulation and Analysis.**—In tabulating a consumer study, each interview is equivalent to another. In tabulating industrial interviews, interviews are generally assigned varying importances. This means that quantitative weights may be properly applied to individual items in the tabulation. Furthermore, in many instances the identity of the individual interview must be carried through the tabulation-and-analysis stage. The composition of data on which a conclusion is based must be clearly known, so that proper quantitative weights may be taken into account.

Where observational or experimental data are employed, quantitative weighting takes care of the problem of the varying importance of different units covered. Where survey data are obtained, a great deal of judgment must frequently be exercised in the interpretation of an individual questionnaire during the tabulation-and-analysis process. Also, interviews in an industrial research are generally very complicated and rather lengthy. Furthermore, in spite of the skill of the interviewer, they are often incomplete. Tabulation and analysis of industrial research therefore calls for the most skillful and experienced tabulators, and the individual in charge of the project must follow the research carefully throughout the tabulation stage, never considering this a mechanical counting procedure.

**Industrial Interviewing.**—Sometimes the interview in an industrial study can be effectively standardized, and thus handled by any qualified, experienced interviewer. On the other hand, because it is frequently less effective to attempt to crystallize the data gathering into a formal questionnaire form, interview guides are employed.

The interviewer should memorize the guide, which is an outline of the subjects to be covered, and conduct the interview on an informal conference basis. It is obvious that this procedure is fraught with danger, for interviewers are likely to rely on their memory and fill out the interview guide afterward. Furthermore, the interview itself is likely to degenerate into a casual visit, with the interviewer guessing or imagining much that is reported.

It is clear that industrial interviewing calls for a highly skilled type of interviewer. Since he is dealing with individuals in responsible business positions, the interviewer must be able to meet them on their own level. He must draw out the respondent, convince him of a mutuality of interest in giving the desired information, keep his interview guide well in mind, and constantly maintain control of the conversation so that it covers the various points adequately. Since these interviews sometimes will occupy from one to two hours, the interviewer must be a good conversationalist. Above all, he must be able to convince the respondent of the importance of the discussion, of his own competence, and conduct himself in a business-like manner. He must also have the ability to sense leads for further information, often employing the original contact as a means of getting to other persons or to specific data from company records which will contribute to the success of the research.

**Segmented Results.**—A consumer research generally sets forth a well-crystallized problem or series of problems, then proceeds step by step to a final report which covers the subject completely. An industrial study, on the other hand, is often more effective if it is broken up into a series of specific reports, each of which deals with a particular segment of the study. While these are often related in a generalized descriptive statement, each individual report may well cover a particular industry or class of industry, or the market for one or a group of products. Since different individuals are often concerned with different aspects of the subject, special reports are frequently developed for their particular use.

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## CHAPTER 6

### SALES ORGANIZATION AND OPERATION RESEARCH; SALES RECORD ANALYSIS

#### Sales Organization and Operation Research

As a result of the scope of modern selling activities, the size of sales departments, extensive personnel, and other factors which have made sales activities more and more complex, there are many aspects of the sales operation which require the application of marketing research techniques. Many of the basic marketing weaknesses of the individual company lie in its sales personnel, its organization, and operation. The importance of developing the greatest possible efficiency in this area is emphasized by the ultimate dependency of all business on sales volume and the relatively large share of marketing expense allocated to the sales function.

The application of marketing and distribution research techniques to the selling operation may range from a basic survey which leads to wholesale revamping of personnel, policies, and procedures to specialized studies which solve limited and specific sales problems. The latter type is more common, for unless the situation analysis reveals a most serious condition, it is generally much better to improve the effectiveness of the selling organization by a series of progressive developments rather than by sudden reversal of policy or operations.

A qualified, independent marketing research organization is particularly helpful in this type of work, because its objective, impartial point of view provides a proper perspective for cleaning out the dead timber, whether it be personnel or procedures. An outside organization usually makes a broad survey of the sales organization, based on its experience in similar situations, puts its finger on the critical weaknesses, and develops a program of rejuvenation. Since research procedures are employed in the analysis, recommendations should be based on ample evidence so that management can effect changes without disrupting the selling process. The value of changes made is proved by performance records for sales control which are established as part of the study and as a check on results.

A specific phase of sales operation research is the development of an efficient sales organization and management personnel. One of the most important parts of this step is the delineation of authority, definition of jobs, elimination of superfluous functions, and development of key personnel.

Aside from sales organization per se, the chief areas in which marketing and distribution research is applied is in connection with the selection of manpower, training of salesmen, delineation of sales territories, routing of salesmen, and methods of sales compensation.<sup>1</sup> From an operating point of view, specific decisions in all of these activities must be made from day to day by the sales executives. The function of marketing research is to solve the basic problems, establish general policies, and provide proper yardsticks and procedures which guide sales management in specific applications.

Some excellent analyses of nonselling activities have been made. These cover various phases of the work of salesmen which are not shown directly in the sales records, such as sales promotions and display activities of dealers. On the basis of analyses of nonselling activities, some very interesting "incentive plans," which provide special rewards to salesmen for this type of work, have been developed.

**Job Analysis.**—One of the most important applications of marketing research to the sales function is the analysis of the specific duties which salesmen should perform. It has been found that too much of the ordinary salesman's effort is devoted to simple order-taking, with only a limited amount of time devoted to presenting sales arguments for the product he is attempting to sell. Actually, the sales process is so complicated that field observation of sales interviews, particularly when related to sales success, should be employed as a basis for selecting those selling methods which are most productive.

Some of the questions answered by marketing research through field observations in which the investigator contrasts the performance of strong with weak salesmen are suggested by the following list:

1. For consumer goods:
  - (a) Who in wholesaler and retailer outlets should be seen?
  - (b) What facts should be presented?

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<sup>1</sup> See John W. Stokes, "The New Projective-Type Tests for Selection of Salesmen," *Journal of Marketing*, July, 1945, pp. 58-59, and Edwin G. Fleming and Cecile White Fleming, "Test-Selected Salesmen," *Journal of Marketing*, April, 1946, pp. 336-342.

- (c) What services should be performed?
  - (d) Time to be spent on particular types of calls.
  - (e) How many calls per day can be made?
  - (f) How often should calls be made?
2. For industrial goods:
- (a) Who makes the buying decision?
  - (b) What buying reasons should be presented to him or them?
  - (c) Time to be spent on particular types of calls.
  - (d) How often should calls be made?
  - (e) What selling aids are needed?

In exploring these and related activities which make up the selling job, the experience of successful salesmen should be studied closely. *Why* have they been successful? What have they said? What have they done?<sup>2</sup>

**Performance Data.**—An important form of sales organization and operation research is the development of detailed data on sales performance which are used as an incentive to stimulate management and individual salesmen. Total sales production is a first and universal standard, but modern research has developed much more detailed data which further highlight performance and also inform the sales organization more specifically what to do to obtain better results. Examples of such data are:

1. Frequency of customer contact.
2. Orders per man-day.
3. Average order size.
4. Sales by type of customer.
5. Sales by type of product.
6. Sales expense.
7. New customer production.

Data of this type are particularly valuable when placed on a comparative basis. Selling is above all a competitive activity. Performance data which compare one district against another, one sales team against another, or individual salesmen against one another are a primary force of sales stimulation. Comparisons for various time periods, particularly those which measure a salesman's or a sales group's growth in performance, are also valuable contributions to sales management.

The data on the following page illustrate an analysis of sales, expenses, and profit contribution by individual salesmen.<sup>3</sup> From the

<sup>2</sup> Marvin Bower, "Throwing the Sales Program into High Gear," Nineteenth Boston Conference on Distribution, 1947, p. 49.

<sup>3</sup> "Sales Research," from *Business Organization*, a report prepared by the Policy-holders Service Bureau, Metropolitan Life Insurance Company, New York, p. 23.

TABLE 8  
ANALYSIS OF SALES—EXPENSES AND PROFITS BY SALESMEN  
APRIL

Salesman	Gross Sales	Returns and Allowances	Net Sales	Cost of Goods	Gross Profits	% to Net Sales	Expense	% to Net Sales	Net Profit	% to Net Sales
Seewall, A. ....	21,416.83	5,716.80	15,700.03	11,272.60	4,427.43	28.2	1,789.83	11.4	2,637.60	16.8
Heywood, H. M. .	17,497.30	3,873.20	13,624.10	9,577.74	4,046.36	29.7	1,171.70	8.6	2,874.66	21.1
Bristol, E. ....	15,753.81	1,160.21	14,593.60	9,135.56	5,458.04	37.4	1,984.75	13.6	3,473.29	23.8
Hilton, W. J. ....	12,227.83	2,116.08	10,111.75	6,613.15	3,498.60	34.6	879.72	8.7	2,618.88	25.9
Lawrence, T. ....	10,110.70	310.40	9,800.30	6,713.17	3,087.13	31.5	774.21	7.9	2,312.92	23.6
Stewart, A. ....	9,572.81	1,987.49	7,585.32	4,839.41	2,745.91	36.2	963.37	12.7	1,782.54	23.5
Rice, W. R. ....	8,242.18	3,416.20	4,825.98	3,373.34	1,452.64	30.1	690.08	14.3	762.56	15.8
Drummond, A. . .	7,731.50	140.10	7,591.40	4,919.39	2,672.01	35.2	1,169.14	15.4	1,502.87	19.8
Combs, A. B. ....	7,270.21	373.20	6,897.01	4,655.43	2,241.58	32.5	737.98	10.7	1,503.60	21.8
Richmond, S. ....	6,413.71	715.20	5,698.51	4,034.80	1,663.71	29.2	695.62	12.2	968.09	17.0
Brennan, H. A. . .	5,837.02	336.08	5,500.94	3,487.07	2,013.87	36.6	720.13	13.1	1,293.74	23.5
Reynolds, H. ....	5,102.60	284.26	4,818.34	3,309.65	1,508.69	31.3	506.21	10.5	1,002.48	20.8
Total . . . . .	127,176.50	20,429.22	106,747.28	71,931.31	34,815.97	32.6	12,082.74	11.3	22,733.23	21.3

data it can be seen that while Seewall sold \$21,416 and Bristol sold \$15,753, Seewall's profit contribution was only \$2,637 in contrast to Bristol's profit contribution of \$3,473. This illustrates the error in using sales volume as the sole indicator of sales performance. When the analysis is extended to incorporate average sales, sales by class of merchandise, performance against quota, and other factors, then close control on sales activities of individual salesmen is obtained.

An example of the control of the performance of individual salesmen is that of the B. F. Goodrich Rubber Company. The procedure is as follows:<sup>4</sup>

#### HOME OFFICE ANALYSIS OF SALESMEN'S SALES

In addition to supervision of the branch manager the salesmen's results are subjected to a careful analysis by the trade analyst at Akron. A monthly record on the salesmen is sent in by the branch and without attempting to check the detail of the salesmen's work by towns or by dealers the general efficiency of the man is analyzed as to:

1. The number of towns he makes monthly.
2. The number of his monthly orders and accounts.
3. The total shipments into his territory during the month.
4. The business actually solicited by the salesman.
5. The dollar per car yield in his territory as against the quota set for him and compared with
  - a. attainment of other salesmen in his branch.
  - b. the average of all Goodrich salesmen.

Because of the fact that salesmen's territories vary so greatly in size the cost of traveling varies with each territory, making it difficult to set up a standard of sales expense applying to all territories. Salesmen are paid a certain fixed compensation per month sufficient to enable them to cover their territories properly and in addition a certain percentage or commission on sales. Both the fixed compensation and the percentage vary. The selling cost ratio should be considerably lower in the cities than in the country territories. The selling cost ratio is analyzed in the light of conditions applying in each territory rather than with regard to a set standard.

**Selling Cost Analysis.**—Cost accounting analyses of the operations of individual salesmen and of territories offer particularly fertile methods of sales organization research. The following is an example:

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<sup>4</sup> *Ibid.*, pp. 19–20.

A study was made of the ratio of expenses to sales for each of the company's salesmen for the first six months of that year in an attempt to get at the causes for the high marketing costs. A considerable variation was shown in these ratios throughout the country and even in the same division. For example, in Division A the lowest ratio was 2.76, while the highest was 11.44. The salaries and traveling expenses of the four best salesmen were only 3.46 per cent of their sales, while those of the three worst were 9.07 per cent of their sales. The three worst salesmen did only 19 per cent of the business of the division but account for 38 per cent of the total salesmen's expenses in the district.<sup>5</sup>

By contrasting the performance of different sales territories with one another, it is possible to develop sales cost comparisons which point clearly to means of improving performance. An illustration which shows the type of data employed in such an analysis is the following:

TABLE 9

	Branch A	Branch B
Number of salesmen.....	25	6
Sales quota.....	\$600,000	\$600,000
Sales volume (12 mo. moving total).....	650,000	925,000
Profit contribution.....	13,000	108,000
Cultivated group.....	2,700	300
Customers.....	900	275
Average per customer.....	720	3,370
Standard deviation.....	500	1,100
Percentage of sales expense.....	33	23
Profit contribution percentage.....	2	12

With such a summary as this, properly supported by additional tabulations, it is not difficult to account for the difference in sales costs and in sales performance. Even from these few figures, it is apparent that both operations are unsound. It is evident that Branch A is overstaffed with second rate men who are beating the bushes looking for a lot of small orders and spending an inordinate amount of time and money cultivating doubtful prospects. Branch B, on the other hand, is understaffed with a few super-salesmen who handle about 50 accounts apiece, most of whom they are selling—and neglecting all prospects so that their competitors are becoming entrenched with people whose business this branch may want badly two or three or five years hence. . . . Study of underlying tables and the contrasts

<sup>5</sup> Frederick B. Heitkamp, "Product and Market Research," American Management Association, I. M. 14, 1931, pp. 2-3.



they present points out other bases of sales and sales cost control which can strengthen both branches.<sup>6</sup>

Analyses of sales costs may be a particularly significant tool if a system for the current control of selling costs is established as a result of such a study. In making such a study, it is important to bear in mind that the ordinary accounting data, currently available in most business firms, do not often provide sufficient detailed cost information. The accounting department is usually set up from a financial point of view, often following procedures dictated by the requirements of the Bureau of Internal Revenue for tax purposes. While the routines of the accounting department have become more complex, in many instances they have become less satisfactory from a sales control point of view. It is generally necessary for the sales department to establish its own machinery for cost analysis, often employing machine tabulation installations for this purpose. However, there are advantages in having the accounting department responsible for the routine preparations of data used as a basis for selling cost analysis. This point of view has been expressed as follows:

Effective sales management requires the establishment of standards and budgets for selling expenses and costs. This involves the application of the principles of distribution cost accounting and budgeting to the market function. The accounting department participates in this phase of sales control activities. We believe the executive responsible for accounting should be functionally responsible for supplying required selling expense and selling budget information; and it is his responsibility to co-operate with sales management to that end.<sup>7</sup>

**Time and Duty Studies.**—A number of specialized techniques have been developed in connection with various phases of sales organization and operation research. Time and duty studies of sales activities invariably provide a fertile source of improvement. By observing the activities in which salesmen engage during the normal course of their selling, it is found that an undue amount of time, hence of sales expense, is usually spent on nonselling activities. Sometimes this is the fault of the salesman; more often it is caused by faulty training, direction, or lack of guidance. Relating the amount of time spent in selling certain products in the line to sales results will usually lead to a more productive direction of sales effort.

<sup>6</sup> W. M. Fox, "First Steps in Spotting the Source of Excessive Selling Costs," *Sales Management*, October 15, 1946, p. 85.

<sup>7</sup> George A. Fry, "Establishing Effective Sales Controls for Management," Nineteenth Boston Conference on Distribution, 1947, p. 42.

Contrasts between the operations of the best sales producers and those of the poorest generally show that sales results are more a consequence of *what* salesmen do than of *how* they do it.

A time and duty analysis introduces the engineering approach to sales management. Just as the industrial engineer observes operations in the factory, noting the amount of time required to perform certain operations, in a marketing time and duty study an observer with a stop watch accompanies a salesman on his regular calls and records the amount of time devoted to specific activities. The observer must be well trained and the operation set up so that the salesman conducts himself in normal fashion and accepts the value of such a study. It has been found that the salesman soon becomes accustomed to the observational procedure and ceases to be particularly aware of the observer's presence. Showing these results to sales groups arouses their interest, helps them to apply this tool to make their own work more productive, and assures further co-operation.

The results of a large number of observations are summarized to develop a general pattern for the sales operation. The following data show such a summary from a study of wholesale drug salesmen in Ohio:<sup>8</sup>

TABLE 10  
DISTRIBUTION OF WHOLESALE SALESMEN'S TIME  
PER DAY AND PER CALL MADE

Time Elements	City Salesmen			Country Salesmen		
	Minutes		Per Cent of Time	Minutes		Per Cent of Time
	Per Day	Per Call		Per Day	Per Call	
Idle.....	60.0	6.3	13.5	92.4	11.3	14.7
Travel.....	79.0	8.3	17.5	123.4	15.1	20.4
Await interview.....	48.1	5.2	10.7	44.0	5.1	6.9
Broken interview.....	30.4	3.3	6.8	36.8	3.6	4.8
General conversation....	50.5	5.0	11.1	68.0	8.0	10.9
Collecting.....	8.3	0.8	1.8	20.2	4.0	4.7
Making adjustments....	5.3	0.9	1.7	12.7	1.7	2.3
Miscellaneous.....	30.8	3.2	6.5	34.0	4.0	5.4
Order taking.....	32.8	3.4	7.6	99.8	12.2	16.1
Selling.....	99.0	11.3	22.8	83.1	10.2	13.8
Total.....	444.2	47.7	100.0	614.4	75.2	100.0

<sup>8</sup> Herman C. Nolen, "Time and Duty Analysis of Wholesaler's Salesmen," *Journal of Marketing*, January, 1940, pp. 274-284. For another illustration, see John R. Brommell, "What Becomes of a Salesman's Time," *Red Barrel* (New York, Coca-Cola Co.), June 15, 1933, pp. 19-22.

From a time and duty analysis, a number of norms for performance are obtained. The general average for all salesmen of a given firm is only a starting point. Norms should also be developed for various types of salesmen, as in the example above, and for various sales units, such as different branches.

Perhaps the most useful end product of the time and duty analysis is the comparison of the performance of an individual salesman against norms for his particular group. An illustration of the variance of individual performance is the following:<sup>9</sup>

TABLE 11

PERCENTAGE OF SALESMEN'S TIME DEVOTED TO VARIOUS ACTIVITIES

Activity	Average	Salesmen				
		I	II	III	IV	V
Travel between stores.....	23	26	27	25	13	23
Waiting in store.....	14	7	15	16	18	13
Selling and collecting.....	31	31	32	26	31	34
Miscellaneous.....	17	17	12	25	23	10
Detail work.....	15	19	13	8	15	22

A refinement of the time and duty analysis is to extend the observations so as to record more specific activities engaged in by the salesman in connection with the selling function. For example, a record of the type of sales presentation made, on the basis of classifications set up as a result of observing several salesmen, may be related to average order size. Another illustration is to make a record of the specific products the salesman has attempted to sell in each interview. This form of study has proved to be particularly fruitful where salesmen have a line of products to sell. The results of such studies have inevitably indicated that the failure to mention products has contributed much more to low sales per interview than has faulty sales presentation. Still another application of time and duty analysis is to record the amount of time actually spent by salesmen in the use of various sales aids furnished to him by sales management. The results of some of these studies have proved rather startling to sales directors who had been unaware of the spotty use of their sales materials.

**Selection and Training of Salesmen.**—Marketing research is being used more and more to provide a basis for the selection and

<sup>9</sup> Donald R. G. Cowan, *Sales Analysis from the Management Standpoint*, Chicago, University of Chicago Press, 1938, p. 3.

training of salesmen. The foundation is provided by job analyses or time and duty studies. In addition, specific research in methods of selecting salesmen is frequently conducted. A correlation study which by various psychological tests relates personal characteristics, such as age, experience, and response, to sales performance establishes standards against which applicants may be measured. That such studies are far from purely theoretical is attested by the accuracy with which companies who have employed them are able to predict sales success of applicants.<sup>10</sup>

Sales training has passed the stage where it is based primarily on the ability of senior salesmen to pass on general principles gleaned from personal experience. Marketing research, by establishing the importance of various specific sales functions, provides a more scientific basis for preparing the novice salesman and stepping up the performance of those who are more seasoned. One device used extensively by certain firms, such as the Vick Chemical Company, is to train salesmen in simple marketing research operations. By making dealer interviews, by taking stock and sales checks, and by obtaining competitive merchandising information, the young salesman is brought face to face with customers and learns a great deal which will lead to better control of his personal sales efforts in later years.

**Sales Compensation.**—One of the chief problems of sales management is to establish a method of sales compensation which will insure maximum sales performance and properly reward those salesmen who make the greatest contribution. The methods employed are becoming more and more complex. Instead of a fixed salary or a commission, many companies have rather elaborate compensation plans which provide incentives for activities not always immediately reflected in sales volume and which help guide the salesman in his daily work. Some notion of the complexity of the problem of establishing an effective compensation plan is given in the following statement of the requirements which must be met according to one writer:<sup>11</sup>

- Increasing gross *sales*.
- Pushing sales of *profitable lines*.
- Pushing sales of *all* lines.
- Providing definite *incentive*.

<sup>10</sup> See J. L. Rosenstein, *The Scientific Selection of Salesmen*, New York, McGraw-Hill Book Co., Inc., 1944, pp. 29-35.

<sup>11</sup> J. B. Lathrop, "Compensation Adjustments in a Period of Uncertainty," American Management Association, Marketing Series No. 70, 1947, p. 41.

*Increasing* salesmen's incomes.  
*Decreasing* salesmen's incomes.  
Performance of special tasks.  
*Standardizing* incomes between men.  
*Eliminating* violent income fluctuations.  
Making the plan simple.  
Getting more new calls.  
Getting more general cooperation.  
Reestablishing morale.  
Cutting down turnover.  
*Reducing* the percentage of field selling expense.

**Measurement of Manpower Requirements.**—Analysis of the selling operations of almost any concern will reveal a considerable lack of balance between the requirements of the sales job to be done and the manpower assigned to the various territories. It is impossible to achieve perfect balance, but there is no reason why certain territories should be oversupplied with manpower, while others are being inadequately covered. One of the most common types of unbalance, for example, is that between city and rural areas.

Quantitative analysis, which reveals the amount of potential volume in the various sales units, provides a useful basis for distributing manpower. However, it should be used as only one factor, as many other elements must be taken into consideration.

To obtain the proper amount of manpower, it is first necessary to make a job analysis which will reveal the specific functions required of each salesman in relation to various types of customers and prospects. After standards of work performance are established, time standards for their performance are obtained. Next, a detailed analysis of each sales territory is made, showing the number and location of all customers and prospects by type. These data, taking into account travel time, can then be used as a basis for developing the number of man-hours or man-days required for each territory. Such an analysis is insurance against wasted sales dollars. This type of research frequently results in a general toning-up of the morale of the sales force and a much better control by sales management.

By a comparison between sales costs and sales performance by individual salesmen for the different territories, a further basis for determining the amount of manpower required is obtained. The Johnson Wax Company found a variation of from 67 to 149 per cent of the national average in the sales return per man in the

different sales districts.<sup>12</sup> A comparison between this result and sales strength and sales cost revealed that although the company had high performance in some territories, there was also high sales cost and low yield per man, which indicated an overmanned condition. In other cases, where the district had low performance, with a low sales cost ratio and high yield per salesman, an undermanned condition was indicated. By carrying these data below the district level to individual salesmen or to groups, sales management may learn how to deploy its sales resources more effectively.

### Sales Record Analysis

The term "sales record analysis" includes those phases of marketing and distribution research which deal with the analysis of internal sales records. These records offer a veritable gold mine of information on which marketing policies may be developed.

A sales record analysis may be made from any one of three different approaches: sales, costs, and profits. The analysis of sales results is a common starting point, and that is often as far as the work is carried. Analyses of the cost of selling have been developed more recently and are proving very valuable. Analysis of profits related to various marketing operations is a field which has been barely scratched, but one which should grow. An example of the difference between the three types of analysis may be shown in the case of a territorial breakdown. One might analyze sales volume by territories, the costs of selling by territories, or the profits per dollar of sales by territories.

The key to successful sales analysis lies in the proper selection of the basis for analysis. There are many ways in which sales data may be broken down. The total sales, costs, or profits for the company may be analyzed over a period of time to discover significant trends. Analyses which separate individual products and items in the line are likely to prove very productive. Some of these analyses break down the sales records by such divisions as individual styles, sizes, and packaging units. A breakdown of such data by territories is common. Comparative data for individual salesmen and dealers are also likely to prove enlightening.

In addition to analyses of sales, costs, and profits on bases such as those mentioned above, there are many special types of research which fall within the province of sales analysis. A study of the fre-

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<sup>12</sup> See Richard D. Crisp, "A Program for Reducing Sales Costs," American Management Association, Marketing Series No. 70, 1947, p. 15.

quency and the size of dealers' orders is one example. Analysis of seasonal sales variation is another type of special analysis which will be frequently encountered.

Because there are so many possible bases on which sales records may be analyzed, many firms use machine tabulation methods so that vital data are readily available. The details of every sales transaction are recorded on a punched card. With tabulating machinery it is possible to draw from these cards every conceivable combination of data recorded thereon. One firm prepares 196 different types of reports from one card form recording the details of each sales transaction. The following list shows some of the data which another company can obtain currently from the machine tabulation system which it has installed:

1. Date of each sale.
2. Plant (factory).
3. Commodity classification.
4. Item—style, size, color, etc.
5. Size of order, in units or pounds.
6. Dollar value of order.
7. Customer.
8. Customer classification—size, type of business, etc.
9. Customer credit rating.
10. City.
11. State.
12. Sales territory.
13. Discounts allowed.
14. Trade-in allowance.
15. Salesman.
16. Sales commission.
17. Bonus classification.
18. Price.
19. Cost.
20. Net profit.

With such a comprehensive record of every sales transaction, the marketing researcher can readily make cross-combinations which will reveal opportunities for more effective marketing. A comparison of net profits (item 20) by customer classification (item 8) or size of order (item 5) is bound to reveal opportunities for concentrating demand creation efforts on the most productive prospects.

An illustration of the various steps which may logically be followed in making a sales analysis, and ways in which it becomes a

foundation for incorporating other forms of marketing research into a broader program is the following procedure:

#### STEP 1—DETERMINE YOUR CONTROL UNIT

The first step in any program of marketing management is a decision on the unit of control—the county, trading area, district or sales territory which is to be the basic unit of your control system.

For purposes of sales analysis, the two most important characteristics of a control unit are:

1. It should be as *small* as possible . . . and *practical*.
2. It should be as nearly *self-contained* as possible.

#### STEP 2—MAKE A PRODUCT BREAKDOWN

It is easy to assume that products which are sold through the same channels, and bought by consumers for essentially the same uses, can be grouped for analytical purposes without loss. . . . That is a very dangerous assumption. . . . Deciding where to start, and deciding what to group and what not to group, represent problems for the analyst.

#### STEP 3—ALLOCATING SALES TO CONTROL UNITS

You have determined your control unit. You know just what sales figures—what product or group of products—you are going to use. The next step is to allocate your sales of the selected product or products to your control units.

#### STEP 4—DEVELOP BASIC DATA FOR YOUR CONTROL UNITS

In addition to knowing your own sales in each control unit, it is desirable for you to have available certain basic marketing data on each area . . . data which are, for you, "vital statistics." What types of data you will require depends on your particular business.

#### STEP 5—DEVELOP PER-CAPITA FIGURES FOR EACH CONTROL UNIT

In interpreting per-capita figures, it is well to keep these two points in mind:

1. *Low* per-capita sales may represent *good* sales performance in territories like the Deep South where the *opportunity* to make sales is below-par in relation to population.
2. *High* per-capita sales may represent *poor* sales performance in territories where the opportunity to make sales is exceptionally high. Example: Parts of New England.

#### STEP 6—GET A MARKET INDEX

To measure your sales performance with a yardstick which is more accurate than crude per-capita figures, you need a market index . . . a means of measuring the *opportunity* to make sales in your different control units, or the *potential* of each.



## STEP 7—DETERMINE YOUR LEVEL OF SALES PERFORMANCE IN EACH UNIT

Using a market index, you can then determine how you are doing in each of your control units.

## STEP 8—ESTABLISH YOUR TRENDS

Once you have completed an analysis of current sales performance, your attention will turn naturally to the outstanding problems thus uncovered in terms of low-performance sales territories.

## STEP 9—PICK YOUR OBJECTIVES

After you have used the steps outlined up to this point to determine just where your sales performance is high and where it is low, your next step is to select your most important weaknesses as initial objectives.

## STEP 10—MEASURE YOUR PROGRESS

This involves a periodic re-evaluation of your sales performance, with emphasis always on problem areas. We check the sales performance level of every one of our 19 districts *on every product, every month*.. We check the sales performance level of every one of our more-than-180 marketing areas—control units—*on every product, every three months*.<sup>13</sup>

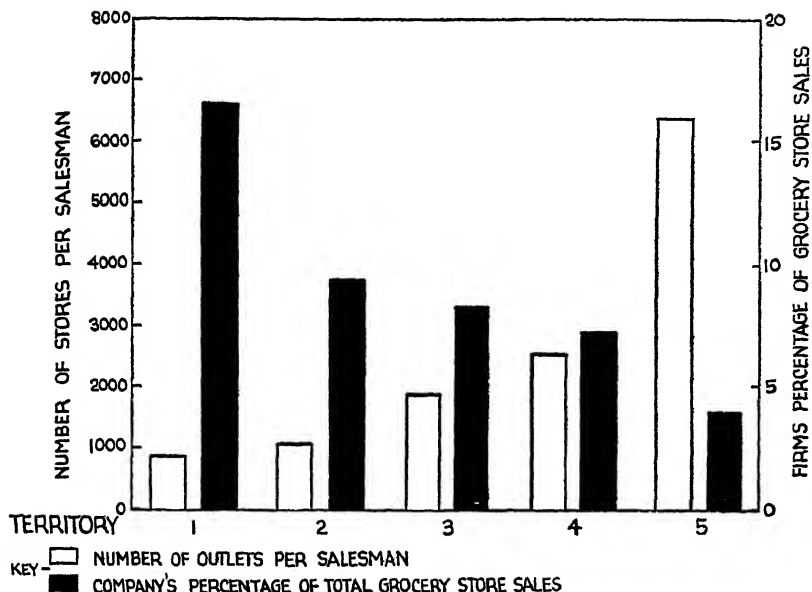
Sales analysis should be established as a regular operating procedure, with constant comparisons of performance and costs to keep the marketing mechanism as efficient as possible. Where a current system of sales analysis has not been installed, a special comprehensive research which digs into past records will often prove most revealing. The Allis-Chalmers Company, for example, did not have data which could properly relate sales to costs. All sales costs except direct field selling expense were buried in profit and loss statements of individual product departments. Costs of operating a field warehouse were spread among four or five different product departments. The company's experience with a comprehensive sales analysis is reported as follows:

We analyzed our past sales over a four-year period. This information was organized on the basis of customers, industries, method of sales, and territory. We established a sales analysis system which would provide current information. We use IBM punch-card accounting machines to give us as elaborate or as simple reports as we need. Sales analysis information has played a big part in development of our sales plans. Since we manufacture a wide range of products, many of which have to be custom engineered, we have a serious problem.

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<sup>13</sup> Richard D. Crisp, "How to Organize for Marketing Research," American Management Association, Consumer Marketing Series No. 63, 1946, pp. 6-16.

### ANALYSIS OF SALES COVERAGE AND SALES EFFECTIVENESS



**Figure 7. Part of the Results from a Sales Analysis**

The purpose of the study was to determine the optimum number of accounts to be assigned to each salesman. First, the number of grocery stores in each sales territory was obtained from the Census, and divided by the number of salesmen assigned to the territory to determine the ratio of salesmen to total number of prospective dealers. Then the company's sales volume for each territory was divided by the total dollar grocery store volume, to obtain the ratio of sales performance to an index of sales possibilities.

The chart compares these two ratios for five selected districts. It shows the general principle, confirmed by an analysis of all territories, that sales performance was in inverse ratio to the number of stores each salesman was forced to cover in his regular routine.

Before a final policy decision could be safely made, however, it would be necessary to carry the analysis further on the basis of selling costs and profitability. It might be found, for example, that the addition of salesmen in territories like No. 5 would increase sales costs and reduce profits per salesman to a point which would offset the potential gain in sales volume indicated by the chart.

The example illustrates the importance of selecting the proper basis for a sales analysis by showing a novel breakdown, and also the need for considering the cost and profit approach as well as that of sales volume.

The cost of paper work is cause for concern to many companies. It became evident that some of our orders were unprofitable just on the cost of handling, even before manufacturing costs. We made two separate studies, one on cost of processing orders, the other on how many orders there were. Results were disturbing—so much so that we decided to expand our dealer organization to handle the major portion of the sale of small apparatus. This program alone will effect savings sufficient to support market research for years. Our sales analysis developed facts, previously only suspected, with such force that action was taken.<sup>14</sup>

The sales analysis for Allis-Chalmers led to a new concept of marketing costs. Instead of considering only direct field expense, the company decided to include the following in their analysis and control of sales costs:

1. Salaries of salesmen, district office managers, clerical personnel in the field, and other costs of district offices.
2. Administrative and sales promotion and advertising.
3. Warehousing and interwarehouse transportation expense.
4. Credits and collections.
5. Freight.

**Establishing Standards from Sales Analysis.**—Sales analysis provides a vast fund of data regarding sales volume, cost of sales, and profitability of sales. These data in themselves are very useful aids in managing the marketing operation. By developing ratios of costs and profits to sales by various products, lines, territories, and other units, meaningful comparisons can be made from time to time.

However, the greatest use from the results of sales analysis comes when standard performance ratios are developed. By establishing typical yardsticks of performances for various functions, then applying them to different units, the individuals responsible for management and control are provided with a realistic understanding of the quality of the job they are doing. In setting these yardsticks average performance is most frequently used. For example, the cost of sales ratio for the entire company is developed, then the corresponding figure for each territory is related to the average. In interpreting these results, it should be borne in mind that the sales problem varies greatly from district to district, depending on potential, density of customers, size of customers, business conditions, and other factors.

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<sup>14</sup> J. L. Singleton, "When the Controller Says 'Costs Are Too High,'" *Sales Management*, May 20, 1948, p. 38.

**Sales Analysis Department.**—In a number of companies the work of sales analysis assumes such importance that a separate department is set up to conduct current sales analysis. Sometimes this unit is a branch of the marketing research department. It is more specialized in character than a general marketing research depart-

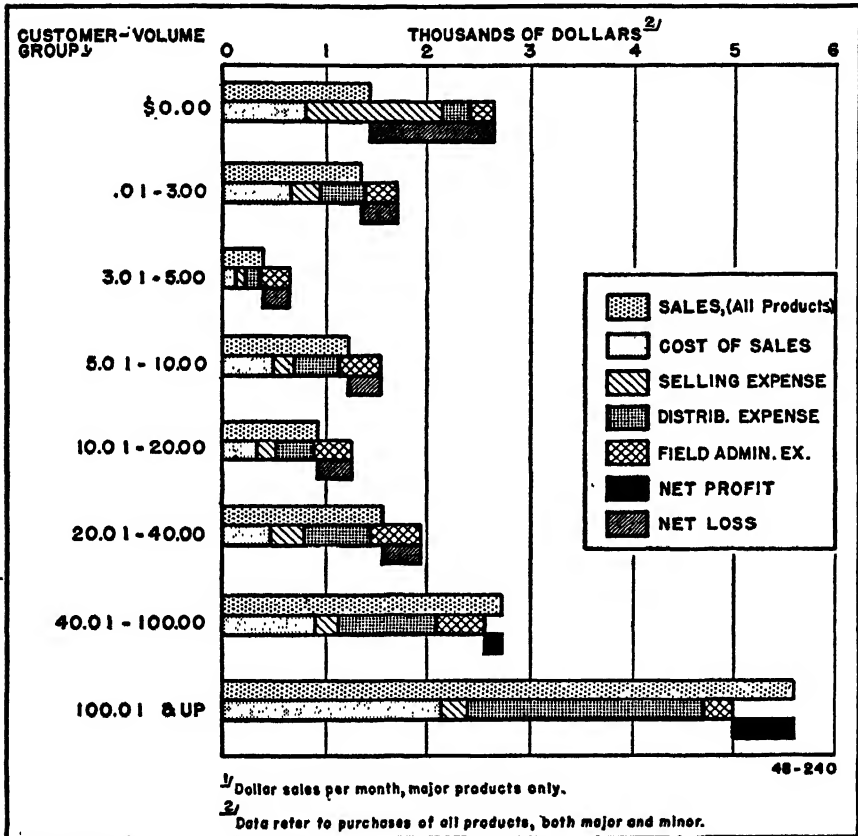


Figure 8. Sales Record Analysis—Profitability of Accounts

A case record. (From Charles H. Sevin, "How Manufacturers Reduce Their Distribution Costs," *Printers' Ink*, November 26, 1948, p. 31)

ment, for the bulk of its effort is devoted to the gathering and analysis of current sales data, usually through machine tabulation methods.

An example of the specific functions performed by a sales research department is that of the Dennison Manufacturing Company, which performs the following duties:<sup>15</sup>

<sup>15</sup> "Sales Research," from *Business Organisation*, a report prepared by the Policyholders Service Bureau, Metropolitan Life Insurance Company, New York, p. 5.

1. The department makes an intensive study of salesmen's time.
2. Analyzes the United States for the purpose of determining potential markets for its products.
3. Furnishes data for the establishment of sales and expense quotas.
4. Studies the cost to the retailer of selling its merchandise.
5. Studies the market for its commodities by various trades.
6. Analyzes the various methods of salary payments.
7. Determines the cost of selling and shipping orders by dollar value.
8. Determines the cost of selling by the various trade groups and by individual salesmen.
9. Determines the cost of canvassing various territories by automobiles as against the cost by public conveyance, measured with the probable increased return in sales.

## CHAPTER 7

### WHOLESALE AND RETAIL DISTRIBUTION ANALYSIS

One of the broadest applications of marketing and distribution research is in studies of the various channels of distribution. Since the largest share of marketing costs is incurred in wholesale and retail distribution, these fields are a fertile source for the application of scientific method to improve efficiency. While marketing research was first developed on a large scale by national manufacturers, more and more distributors are finding that they can apply the same basic techniques in the solution of many of their most pressing problems. Because they are closer in the marketing process to the consumer, distributors usually rely more upon analysis of internal operating records than on field surveys. There is also greater emphasis on specific problems, such as store location, warehousing and delivery practices, and detailed analysis of a relatively limited geographic area.

**Basic Distribution Research.**—The most fundamental research in the fields of wholesale and retail distribution is conducted by the government in its Census of Business. Providing basic data on number and kind of wholesalers and retailers, and their sales and operating practices, this source lays the statistical foundation for a great deal of special analysis.

The original Census of Distribution was taken in 1929. This work was soon expanded, and in 1938 the Census of Business provided a much more comprehensive picture. During World War II this activity was held in abeyance. Since the war Congress has been slow to appropriate necessary funds to provide adequate and continuous data on the basic wholesaling and retailing structure of the United States. Current emphasis is being placed on developing a sample Census of Distribution, special surveys of retail stores, the use of mail returns rather than census enumerators, and other devices which will make the gathering of distribution data more economical and possibly more timely.<sup>1</sup>

<sup>1</sup> See Morris H. Hansen *et al.*, "Problems and Methods of the Sample Survey of Business," *Journal of the American Statistical Association*, July, 1946.

A number of studies of basic distribution structure are available from time to time from other sources. Bureaus of Business Research connected with large universities report on a state or regional basis. Private firms sometimes gather basic data which are made available.<sup>2</sup>

### Wholesale and Retail Distribution Analysis by Manufacturers

From the point of view of the manufacturer, dealer distribution analysis takes on a special meaning. Here the emphasis is on building the most efficient distributing organization, and a variety of applications of research have been developed. Some of the more important forms follow.

**Selection of Channels of Distribution.**—Most manufacturers have a series of options as to channels of wholesale and retail distribution which may be employed. Products generally fit into a normal pattern of distribution, such as building materials which traditionally move through lumberyards and drug products which naturally flow through drugstores. However, the development of nontraditional channels which supplement regular channels, and concentration on the development of particular forms of distribution have paid huge dividends to alert manufacturers. Furthermore, the channels themselves are in a state of constant flux. The use of marketing research makes it possible to insure that the most effective channels are employed, as well as to detect channels which are expanding in importance.<sup>3</sup> By way of example, the distribution of major electric appliances may be cited. The appliance dealer at one time played a much more important role than he does today. Public utilities, department stores, furniture stores, and other types are of varying importance from time to time. A research of the various channels open to a particular product shows how emphasis should be distributed to obtain the greatest total sales result.

The new manufacturer, or an established one bringing out a new product, is faced with the primary job of determining the types of wholesale and retail outlets against which his sales efforts are to be

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<sup>2</sup> See, for example, *New Count of U. S. Retail Outlets*, New York, Dun & Bradstreet, 1946. This study, made in collaboration with *Life* magazine, shows the number of chain and independent outlets for each commodity line and for each county in the United States.

<sup>3</sup> For an excellent statement of the extent and nature of these fluctuations, see Victor Lebow, "Our Changing Channels of Distribution," *Journal of Marketing*, July, 1948, pp. 12-22.

directed. One manufacturer decided to produce and distribute lawn sprinklers. An extensive study of channels of distribution surveyed competing manufacturers, manufacturers' representatives, and wholesale and retail dealers. The study also developed information about comparative prices, features, selling terms, and selling methods of similar products. The types of distributors best suited to handle the product were recommended, and a pattern of recommended cities in which distributors were to be appointed was worked out. In another study for a new insect repellent product, the same research organization analyzed wholesale markets to select the best channels of distribution and worked out trading areas for each recommended wholesale market to provide maximum sales coverage.<sup>4</sup>

The experience of S. C. Johnson & Sons shows that repeated analysis of channels of distribution is important to established products as well as to new ones. During the period 1939-46, the total volume sold to wholesalers increased by 57 per cent. The shift in the importance of retail outlets is shown by the following change in relative importance of seven types of customers, on an index basis of 100 for each type in 1939:<sup>5</sup>

Type of Customer	(1939 = 100)	1946 Index
A.....		142
B.....		125
C.....		69
D.....		68
E.....		59
F.....		55
G.....		37

While the war years may have accelerated change, this fluctuation is not infrequently encountered during nonwar periods. The constant flux of retailing, the effect of varying business conditions, and the continual emergence of new trends in the significance of certain types of dealers make the selection and cultivation of various channels of distribution a problem constantly subject to marketing research.

A common error of an established manufacturer who is introducing a new product is to assume that it can be most effectively distributed through his regular trade contacts. One manufacturer

<sup>4</sup> *Study of Lawn Sprinklers*, 1947, and *Study of Insect Repellent Product*, 1946, both published by Dun & Bradstreet, New York.

<sup>5</sup> Richard D. Crisp, "A Program for Reducing Distribution Costs," American Management Association, Marketing Series No. 70, 1947, p. 22.



of electrical products introduced a new product similar to his old line. He naturally employed his regular channels of distribution. Sales on the new product were unsatisfactory, and a marketing research revealed that his established wholesaling channels were not logical suppliers of the new product. Changing to new channels brought an immediate increase in sales to normal expectancy, and a potential failure was turned into a marketing success. Even in fields where established practice appears to indicate that there is no doubt as to channels of marketing, a research should be made to verify this fact under the conditions encountered at the time a new product is introduced.

Analysis of channels of distribution sometimes severely challenges the ingenuity of the marketing researcher.<sup>6</sup> Tradition plays such an important place in the distributive structure that there are frequent opportunities to exercise skill in constructing researches which probe beneath the surface and develop new aspects of the value of various distribution channels.

**Selection of Individual Units.**—There was a time when industry sold its products indiscriminately to dealers, but manufacturers have learned that policies of selective selling produce greater volume and profits. Dealer research sorts out the most efficient units and establishes policies which make it possible to develop a dealer program within a given type of channel which will be most efficient. The result is usually a key dealer program for primary outlets and a basis for qualifying other dealers to insure that an efficient organization is obtained.

The most important form of research designed to provide a basis for selecting individual units to be included in a manufacturer's distribution pattern is the analysis of the profitability of accounts by order size. While such an analysis may be made on the basis of total volume obtained from a given outlet during a sales period, the most revealing basis is to analyze sales in terms of the amount of the average individual order obtained from each customer or prospect.

An illustration of the technique and results obtained in one study of the profitability of accounts on the basis of weekly purchases is shown in Table 12.<sup>7</sup>

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<sup>6</sup> See Gideon Hadary, "Effect of Method of Distribution on Milk Consumption," *Journal of Marketing*, April, 1945, p. 354.

<sup>7</sup> Donald R. G. Cowan, *Sales Analysis from the Management Standpoint*, Chicago, University of Chicago Press, 1938, p. 135. This reference contains a detailed discussion of analysis of profitability of accounts.

TABLE 12

**PROFITABLENESS OF DIFFERENT CUSTOMERS CLASSIFIED  
BY AMOUNT PURCHASED WEEKLY**

(Six Wholesale Food Distributors—a Typical Week, 1930)

Amount Purchased during Week	Percent- age of Total Cus- tomers	Percent- age of Total Sales	Percent- age of Total Ex- penses	Percent- age of Average Sales per Cus- tomer	Gross Earnings per Sales Unit	Direct Expense per Sales Unit	Net Profit per Sales Unit *
Dealers unsuccessfully solicited.....	27.0	.....	3.9	.....	.....	.....	.....
Less than \$5.00.....	12.0	0.8	2.1	6.5	\$1.50	\$2.95	\$ - 1.45
\$ 5.00-10.00.....	10.1	1.6	2.8	15.5	1.38	1.92	- 0.54
10.00-15.00.....	7.3	2.0	2.5	27.4	1.33	1.33	0.00
15.00-20.00.....	5.8	2.1	2.3	36.7	1.16	1.16	0.00
20.00-25.00.....	4.9	2.4	2.2	49.0	1.09	0.97	0.12
More than \$25.00.....	32.9	91.1	37.1	276.6	0.76	0.44	0.32
Average... ..	100.0	100.0	52.9	100.0	\$0.80	\$0.57	\$ 0.23

\* Gross earnings minus direct expenses only.

To illustrate from a different field, a study by the Western Electric Company showed the following results: <sup>8</sup>

TABLE 13

Size of Order (000 omitted)	Number of Orders	Net Profit (000 omitted)	Profit per Order
Over \$25.....	309	\$3,124	\$10.12
\$10-25.....	162	84 *	0.52 *
5-10.....	108	180 *	1.67 *
Under \$5.....	193	490 *	2.54 *

\* Net loss.

**Continual Audit of the Efficiency of Channels of Distribution.**  
—Although a manufacturer believes that he employs the most satisfactory combination of distribution channels, the system should be audited continually to insure that it is kept at a high level of efficiency. This checking should be done at the distributor and wholesaler level, as well as at the retailer level. The marketing machine

<sup>8</sup> J. W. Millard, *Analyzing Wholesale Distributive Costs*, U. S. Department of Commerce, September, 1927, p. 11 (mimeographed, quoted by Cowan).

is constantly developing inefficiencies which handicap the sales of different products, and only through regular auditing by marketing research can the manufacturer insure that his particular flow to the ultimate consumer is most effective.

**Dealer Distribution.**—The term “dealer distribution” is commonly used to designate the proportion of logical outlets which has a given manufacturer’s product in stock at any given moment. The first step in successful marketing is to have the largest possible number of outlets handling a packaged consumer product. This is obviously a problem in the case of a new product, for obtaining 60 to 70 per cent distribution requires a great amount of effort, and many a new product must struggle along for a considerable period of time with a much smaller proportion of retailers stocking it. This is also a problem for established products, as serious out-of-stock situations develop for many old products. Manufacturers all too often fail to realize the marketing penalty they pay when even a small proportion of outlets which normally handle their type of product do not have their brand in stock. Generally speaking, all marketing, selling, and advertising effort which has been put behind the product fails to the extent that potential buyers do not find it on hand when they are buying in the retail store.

Most dealer organizations have many weak spots in certain geographic areas, in city-size groups, in coverage of major markets, or in effectively reaching certain important segments of the consumer market. The typical marketing structure handling a given manufacturer’s product or line is composed of thousands of dealers and is extremely complex. In the day-to-day operations of the sales department, so much necessary routine and so many different persons are involved that only through the application of distribution research can the weak spots be detected and a specific program for correcting the situation be developed.

In planning a research of dealer distribution, it is important to bear in mind that the sheer number of dealers handling a product is not an adequate gauge of distribution effectiveness. Effective distribution coverage involves at least three elements:

1. Proportion of dealers with product in stock at any given time.
2. Balance of distribution by types of dealer.
3. Completeness of product line represented.

As a result of a fairly extensive check on the extensivity of distribution, an out-of-stock ratio is developed. Those manufacturers

who subscribe to store auditing services, such as the Nielsen Food Index, can watch the out-of-stock figures on their own product and those of competitors on a regular bimonthly basis.

It is also important to analyze distribution carefully by various types and classes of dealers. Consumers develop fixed shopping habits. To reach all segments of the market effectively, it is necessary to have optimum representation in the various types and classes of outlets which serve the different segments of the buying market.

The dealer distribution analysis should also include data on the completeness of the product line represented. A given brand of any product is generally sold in a number of different package sizes or varieties. One food manufacturer, who is so well known that anyone would be likely to assume that he enjoyed 100 per cent distribution, found that the percentage of food dealers handling the different varieties of his product ranged as follows:

Variety	In Stock Percentage
A. ....	85.1
B. ....	51.1
C. ....	49.3
D. ....	48.3
E. ....	45.8
F. ....	40.9
G. ....	37.8
.....	
S. ....	12.1
T. ....	8.8
U. ....	3.7
.....	
Y. ....	0.2

The above data clearly have a number of applications in connection with general marketing policy, sales strategy, and advertising. While all products do not have so many varieties as the one for which this study was made, the vast majority have sufficient variation in size or type to make this kind of research extremely revealing.

**Exclusive Franchises.**—A common marketing policy is to limit competition among dealers in order to obtain additional dealer support by some sort of exclusive selling arrangement. This may vary from an actual exclusive territory contract to a loose policy of limiting competition by not pressing for as complete distribution as might be possible. Regardless of the extent to which the exclusive feature is emphasized, the general problem of the value of exclu-

siveness is present. Research procedures analyze the benefits from restricting the number of outlets in order to determine the optimum number to obtain maximum sales results under any given situation.

**Operating Methods of Dealers.**—In order to obtain maximum effectiveness from individual dealers, it is important that manufacturers know in detail the various operating methods of different types of dealers so that sales policies may be kept in tune with dealer requirements. Display practices are a good example of operating practices which must be studied carefully to insure that display materials are designed and distributed to dealers in such a manner as to obtain maximum usage at minimum expense. Most manufacturers now emphasize a dealer merchandising program as an essential element of their sales campaign. Only by careful analysis of dealer operating practices can the manufacturer be assured that his merchandising program is sound.

Basic changes in operating methods and sales policies of dealers naturally affect sales of manufacturers' goods, and it is important to keep abreast of trends so that marketing policy is kept up to date and capitalizes on current changes in operating methods. The trend to self-service is an illustration of such an operating policy at the dealer level. During the years 1941-46, the percentage of retail grocery sales on a self-service basis increased from 43 per cent to 59 per cent. The importance of following operating methods in detail is illustrated by the geographic variation in self-service of from 40 per cent in New England to 85 per cent in California; and by city-size variation from 53 per cent in cities above 500,000 to 65 per cent in cities of less than 25,000.<sup>9</sup>

The manufacturer is interested in a variety of operating methods of dealers—commodities handled, factors considered in selection of brands for promotion, reaction to display materials, store remodeling plans, advertising policies, merchandise display, and pricing.<sup>10</sup>

**Attitude of Dealers Toward Manufacturers and Wholesalers and Their Products.**—Even if a dealer will not make sales success by pushing a product, he can do a great deal of damage by diverting consumers away from products. Having the goodwill of dealers is always desirable. Marketing research measures the degree to which their goodwill has been obtained, and the way to increase it. Cases

<sup>9</sup> Robert A. Sprague, "1946's Trend in Super Markets and Self-Service Stores," *Advertising and Selling*, July, 1946.

<sup>10</sup> See *The Independent Grocer*, National Association of Retail Grocers, Special Report No. 2, Philadelphia, Curtis Publishing Co., 1946.

in which dealers have refused to stock or display brands of certain manufacturers are rather common. For this reason companies frequently study dealer attitudes toward the company and its products. It is usually not enough to rely upon reports from the sales organizations because these reports are colored by the interest of the salesman. If a question of the attitude of the dealers toward the company is important enough to warrant study, the appraisal of this attitude should be made in a thoroughly detached manner by a marketing research.

**Extent to Which Dealers Can Successfully Push Different Brands of the Product.**—The importance of the dealer in creating demand for a commodity varies greatly among different types of products. In some fields substitution is very common, so that special analyses are made of the extent to which dealers can substitute brands other than the one asked for by a consumer. Frequently it is very important to have a rather accurate measure of the extent to which dealers can control consumer demand for a specific type of product.

The development of more efficient and aggressive retailers has led to a feeling on the part of manufacturers that they are more dependent than they care to be on the retailer's willingness to push a brand. Frequently pressure is put on the manufacturer to make special concessions in order to obtain full cooperation of the retail establishment.

In one instance the observational method of marketing research was employed to provide a clear measurement of the extent to which substitution was actually practiced. An observer, stationed in retail drug stores, recorded for a large number of transactions, (1) the product the customer requested; (2) whether the request was by brand, and if so, what brand was requested; (3) whether the clerk gave the brand asked for or whether he tried to sell some other national brand or a private brand; and (4) the actual purchase made by the customer.<sup>11</sup>

**Status of Private Labels.**—In most lines wholesalers and retailers sell products which compete with those manufactured by an individual company under its own trade name or a special brand name. Since this private label merchandise usually offers wider margins, dealers often push it at the expense of the brands of national manufacturers.

<sup>11</sup> See Lyman Houfek, "Substitution? This Survey Shows It Can Stimulate Advertised Brands," *Printers' Ink*, September 22, 1938, p. 15.

A research into the problem of private labels should be very specific and comprehensive. It is all too common for manufacturers to become unduly alarmed as a result of general trade reports, field reports from salesmen, or stories in the trade press. Actually, it is necessary to obtain precise data regarding the distribution, sales movement, pricing, and other factors relating to private brands in order to obtain a sound conclusion. It is also highly desirable to have data over a period of time, which can be analyzed from a trend point of view, and to have consumer survey data which show the gain and loss of customers.

**Dealer Stocks.**—Most manufacturers wish to have their merchandise on sale at the largest possible number of outlets. The extent of distribution—the percentage of outlets handling a given type of commodity which carry the manufacturer's brand in stock—is a very common form of distribution research. Many marketing men also hold to the belief that a manufacturer will obtain greater sales volume if he loads the dealer with the maximum quantity of stock which is commensurate with a reasonable rate of stock turnover. Some special researches have shown the amount of a product that dealers should carry in stock in order that the manufacturer may obtain the maximum sales volume. As a result of some of these analyses "model stock" units have been devised for different types of dealers.

**Dealer Costs and Profits.**—Another form of dealer analysis is the study of the costs and profits which are obtained on competitive lines of merchandise. One of the most extensive analyses of this type was made by the Coca-Cola Company, which analyzed the net profit of various items sold at soda fountains. With the development of accurate cost accounting, it has been possible to make some very fine analyses of net profits on individual items. The margins which dealers realize on competitive products, the extent of returned goods and spoilage, and rates of stock turnover as they affect profits are examples of research in this field.

**Analysis of Merchandise Lines.**—In connection with the problem of the selection of channels of distribution, a specific form of dealer research which is assuming more importance is the analysis of merchandise lines carried by various types of retailing organizations. The retailing structure is no longer characterized by the simple combination of the specialty retailer and the omnibus general merchandiser; rather, it runs a very complex gamut through various combinations of lines and items which are continually shifting.

TABLE 14

PERCENTAGE OF ALL INDEPENDENT TIRE DEALERS AND U. S. AND  
 FIRESTONE INDEPENDENT DEALERS SELLING DIFFERENT  
 COMMODITIES AND SERVICES, APRIL, 1947.

	All Dealers	U. S. Dealers	Fire- stone Dealers
<i>Tires and Tubes</i>			
New tires.....	99.4	100.0	100.0
Used tires.....	90.6	96.4	94.9
Vulcanizing.....	80.9	80.2	69.2
Recapping.....	71.0	77.8	65.4
<i>Automobile Supplies</i>			
Batteries.....	87.4	95.8	93.6
Spark plugs.....	71.8	80.2	89.7
Accessories.....	62.9	63.5	65.4
Heaters.....	41.7	13.8	74.4
<i>Petroleum Products</i>			
Gas and oil.....	54.1	51.5	56.4
Lubrication.....	47.9	50.3	47.4
<i>Automotive Services</i>			
Wheel balancing.....	62.8	76.6	37.2
Automotive repairs.....	29.3	4.2	25.6
Brake service.....	27.7	41.3	30.8
Wheel alignment.....	23.9	41.3	12.8
<i>Electrical Appliances</i>			
Radios.....	47.0	19.2	74.4
Electric toasters.....	31.5	24.6	70.5
Electric irons.....	31.2	13.1	71.8
Refrigerators.....	26.9	15.6	74.4
Phonograph-combinations.....	25.3	6.6	61.5
Deep freeze units.....	24.0	16.7	60.3
Other electrical appliances.....	16.1	12.0	24.4
<i>Miscellaneous</i>			
Phonograph records.....	6.2	16.7	23.1
Sundry products (automobiles, bicycles, sporting goods).....	33.6	31.7	70.5

A study analyzing merchandise lines of dealers from the point of view of the manufacturer's interest is primarily an auditing procedure. The first information required is a count of all lines handled by dealers classified on such bases as the general type of outlet, size, market, and location. This basic enumeration must be supplemented by some quantitative control, such as an estimate of sales



volume for each line, on an absolute or relative basis, or by inventory or display space given each line.

A large number of complex distribution studies of automotive dealers, filling stations, and similar outlets have been made by manufacturers and wholesalers in the fields of automotive supplies, petroleum products, household appliances, and a variety of other products. One of the findings of a recent survey of Independent Tire Dealers shows specifically the type of basic information obtained in an analysis of merchandise lines handled by retailers.<sup>12</sup> (See Table 14.)

### Distribution Analysis by Wholesalers and Retailers

Wholesaling and retailing concerns use marketing research in many of the forms discussed elsewhere in this book. Consumer surveys, sales organization research, and market trend studies (for example, fashion forecasts) are a few illustrations. A specific example is a survey of trading habits and reasons for not trading at certain stores in Chicago.<sup>13</sup> The techniques employed in this research are the same as those which would be used by a manufacturer, wholesaler, government agency, or other group making a consumer survey. The differences are in the specific nature of the problem studied, the particular facts employed, and the conditions encountered at that time and place. There are, however, certain types of studies discussed in this section which are particularly within the province of the merchandise distributor.

**Wholesaling and Retail Trading Areas.**—One of the most important uses of marketing research by distributing organizations is measuring the natural boundaries of the trading area which they can serve most profitably.<sup>14</sup> In the desire to increase sales volume, many distributors expand their territories to a point where more and more submarginal customers are added. While additional sales volume is obtained, the marketing costs are increased to a point where an actual loss from serving certain customers, rather than

<sup>12</sup> *National Association of Independent Tire Dealers Survey*, April, 1947. See A. F. Schalk, Jr., "Significant Merchandising Trends of the Independent Tire Dealer," *Journal of Marketing*, April, 1948, p. 465. This article gives more data than are shown in the table.

<sup>13</sup> See L. M. McDermott, "Why People Buy at Department Stores," *Journal of Marketing*, July, 1936, p. 53.

<sup>14</sup> See Elmore Peterson, "Solving Wholesalers' Problems Through Trading Area Research," *Journal of Marketing*, April, 1940, pp. 39-45; Ralph Cassady, Jr., and W. K. Bowden, "Shifting Retail Trade Within the Los Angeles Metropolitan Market," *Journal of Marketing*, April, 1944, pp. 398-404; E. Guy Rasmussen, "Hardware Wholesale Trading Centers and Trading Territories in Nine Southeastern States," *Journal of Marketing*, October, 1943, pp. 165-171; and F. A. Russel and Robert V. Mitchell, "A Retail Trading Area," *Journal of Marketing*, October, 1942, p. 160.

a contribution to net profits, accrues. Many retailers find it important to define their trading area carefully in order to avoid waste in advertising and promotional materials. The control of delivery service is another use to which trading area research is put by merchandising organizations.

The goal of trading area analysis is to define the area to be covered by a wholesaler or retailer so that the geographic distribution of sales will bring maximum return at the lowest cost. The reason why a careful research is necessary to define a given area accurately is that there are so many elements in the market beyond the control of the individual enterprise which must be taken into account in an effort to maximize profits. Edwin H. Lewis has outlined the elements which confront the wholesaler:<sup>15</sup>

1. Distribution of population.
2. Transportation facilities.
3. Freight rate structure.
4. Geographic features of the market.
5. Basic physical characteristics of the product.
6. Location of competing wholesalers.
7. Distribution of retailers in a given commodity line.

In his study of wholesale trading areas in Philadelphia, Lewis analyzed five commodity fields—drugs, groceries, dry goods, confectionary, and tobacco. By examining sales data from a number of wholesale firms, he was able to outline the natural trading area for this market. The market outline followed a sequence of bands around the hub in Philadelphia proper, but the pattern of sales for individual firms varied from these bands as a result of differences in selling methods, abilities of salesmen, other peculiarities of the individual firm, and lack of knowledge of the natural trading area.

Research in trading areas generally employs a considerable amount of data available from secondary sources regarding the economic structure of the territory, traffic flow, location of various buying units, circulation of advertising media, etc. Distribution data from the Census of Business are used to show the competitive situation and the trade facilities available. The Bureau of the Census makes detailed data for smaller political units, such as wards or enumeration districts, available for the larger cities.

In addition to available statistics, trading area analysis employs sales data of the merchandising institution itself and field surveys.

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<sup>15</sup> See Edwin H. Lewis, "Wholesale Market Patterns," *Journal of Marketing*, January, 1948, pp. 317-326.

Sales data are broken down into small units—individual customers or very limited areas representing small groups of customers. The fineness of the breakdown is important to the success of the analysis, because the end product is a sort of grid of data which can be placed over basic economic or distribution maps. The finer the grid the more significant will be the relationship of sales experience to these factors, and the more accurately will the contours be drawn. When sales data can be related to expense data for individual customers or groups of customers, their value is enhanced considerably.

Field surveys of dealers, in case a wholesale area is being analyzed, or of consumers, in the case of a retail analysis, are also frequently employed in trading area analysis. Buying habits and preferences are obtained. One of the chief advantages of incorporating a field survey in the research is that it provides an opportunity for obtaining valuable information on competitors. At least a limited field survey should be made, primarily as a check on the accuracy of an analysis based on available statistics and sales data.

A series of maps of the territory under consideration is drawn, each of them visualizing the distribution of an element affecting the problem, such as population and population density. From this series of maps, a general pattern soon becomes more or less clear, and trial contours are drawn to indicate the boundaries of the trading area. The analyst works at this stage much as the weather analyst draws his contours for a weather map. By a process of trial and error, evaluating the significance of each item of data, the researcher finally produces the common contours which define the trading area.

The simple outside outline of the trading area is merely the beginning, however, for trading area analysis becomes more useful to the merchandise distributor when a series of contour lines, designating varying degrees of intensity with which parts of the area should be cultivated, is drawn. For example, the map may show three types of areas: A—those prime areas in which the merchandiser concentrates his major aggressive work, B—those good areas which receive more than minimum cultivation, and C—those areas which are still within the total trading area, but which warrant only minimum effort. It should be observed that while these contours generally flow outward from the wholesale house or retail store, they are irregular and contain “pockets” which do not conform to the general pattern of grading, and should be properly so identified. For example, the A area presumably will lie largely

around the place of business, but may have a number of small sections within it which will be designated as B or C.

An example of the importance of these variations within a merchandiser's trading areas may be found in the plan of the Edison G. E. Appliance Company, which shows distributors, dealers, and salesmen the areas in which they have the best chance to sell.<sup>16</sup> Wholesalers and retailers can often obtain considerable help from manufacturers who can supply valuable marketing information which may be used for trading area research in many localities.

At the present time most trading area studies are based on observation of market data and more or less arbitrary standards. Several approaches toward developing mathematical bases of trading area delineation are being developed. One of these is Reilly's Law of Retail Gravitation, which has been tested and developed by P. D. Converse. It establishes the breaking point between two shopping areas on the basis of the following formula:<sup>17</sup>

$$\frac{\text{Proportion of Trade to City A}}{\text{Proportion of Trade to City B}} = \left( \frac{\text{Population City A}}{\text{Population City B}} \right) \left( \frac{\text{Distance to B}}{\text{Distance to A}} \right)^2$$

**Analysis of Operating and Control Data.**—Because of the variety of items handled, the large number of sales transactions, and the narrow margins within which a merchandising organization must operate efficiently in present-day competition, both wholesale and retail establishments have established elaborate accounting and control systems. The data produced by them, sometimes supplemented by special information, offer rich opportunities for solving many management problems.

The most useful research form of operating data is the operating ratio. By using net sales as the base, a series of indexes may be developed for any of a number of factors which significantly affect the efficiency of the marketing operation. The following are examples of common operating ratios:

Total Operating Costs

Net Sales

Cost of Goods Sold

Net Sales

Net Sales

Average Inventory

Net Sales

Accounts Receivable

Wages and Salaries

Net Sales

Advertising Expense

Net Sales

<sup>16</sup> See G. A. Rebensburg, "How Edison G. E. Analyzes Markets for Its Appliance Distributors," *Sales Management*, August 1, 1945.

<sup>17</sup> See Frank Strohkarck and Katherine Phelps, "The Mechanics of Constructing a Market Area Map," *Journal of Marketing*, April, 1948, p. 493, and P. D. Converse, *Retail Trade Areas in Illinois*, Bureau of Economic and Business Research, University of Illinois, Business Studies No. 6, 1948.

The following table shows estimated operating averages for several types of retail establishments for the year 1947:<sup>18</sup>

TABLE 15  
1947 ESTIMATES  
OPERATING AVERAGES PER DOLLAR OF RETAIL SALES

Type of Distributor	Gross Margin	Payroll (including proprietors)	Advertising	Other Expenses	Taxes	Net Profit
Florist . . . . .	55	22	3.0	20.0	2.0	8.0
Jewelry . . . . .	50	23	4.0	16.0	2.0	5.0
Radio and appliance . . . . .	45	30	2.5	10.5	1.0	1.0
Food—nongrocery . . . . .	45	27	1.0	11.0	1.0	5.0
Eating and drinking . . . . .	45	30	1.0	11.0	1.0	2.0
Home furnishings . . . . .	40	18	2.5	14.0	0.5	5.0
Books and stationery . . . . .	35	20	1.0	9.0	1.0	4.0
Paint . . . . .	35	15	1.5	13.0	1.5	4.0
Shoe . . . . .	30	17	2.5	7.5	1.5	1.5
Apparel . . . . .	30	16	2.0	7.0	2.0	3.0
Department and general . . . . .	30	15	2.0	7.0	3.0	3.0
Drug . . . . .	30	15	1.0	9.0	1.5	3.5
Fuel . . . . .	30	13	1.0	10.0	2.0	4.0
Hardware and farm supply . . . . .	25	12	1.0	7.5	1.5	3.0
Building material . . . . .	25	13	0.5	7.0	1.5	3.0
Liquor and tobacco . . . . .	25	11	0.5	10.0	1.0	2.5
Filling station . . . . .	25	14	1.0	8.0	0.5	1.5
Meat and seafood . . . . .	20	12	0.5	5.0	0.5	2.0
Grocery . . . . .	17	9	0.5	5.5	0.5	1.5
Country and farm supply . . . . .	17	7	0.5	7.5	0.5	1.5
Motor vehicles . . . . .	16	9	0.5	4.0	0.5	2.0

It is common practice to develop these operating ratios for the total enterprise. They become much more meaningful when they are broken down by smaller units, such as branches, departments, merchandise lines, or specific products. The more detailed the breakdown, the more revealing such ratio figures become. For example, it is useful to a merchandiser to know that his over-all sales cost is 22 per cent. However, if his line embraces items selling for \$2 and others selling for \$4, it is obvious that the sales cost is not identical for these items. Food and apparel chains have

<sup>18</sup> Chamber of Commerce of the United States, Domestic Distribution Department, Distribution News Letter No. 7, 1947, p. 1.

made notable progress in allocating costs so that much finer ratios, many for individual products and relatively small product lines, are obtained.

The development of operating ratios, such as detailed cost data related to sales volume and profits, provides the beginning of analysis. The next step is comparisons through time, which show the direction of various cost data.<sup>19</sup> As the ratios for any given wholesale or retail operation are compared with those for other firms, the analysis becomes much more meaningful. In making such comparisons, it is important to limit them to comparable situations, examining all available information on other operations so that conditions limiting comparability are clearly understood and taken into account.<sup>20</sup>

Trade Associations of both wholesale and retail organizations have established departments for the development and interchange of information on operating results. The Bureau of Business Research, of the Graduate School of Business Administration at Harvard University, is one of the outstanding sources of operating ratio data.<sup>21</sup> In addition, special studies which develop standard operating ratios for various types of merchandising establishments become available from time to time.<sup>22</sup>

Operating ratio standards are often used to determine the average performance of a group of relatively homogeneous merchandising establishments. The average may be expressed in any of the various forms of statistical averaging, but the median is usually the most satisfactory base. In addition, upper and lower range figures may be used to establish outside tolerance limits. For example, the operating results of a series of establishments may indicate that the average ratio of sales wages and salaries to net sales is 12.3 per cent. Further analysis may indicate that the highest ratio shown by *profitable* operations is 18.6 per cent. Firms which have higher

<sup>19</sup> See Stephen Gilman, *Analyzing Financial Statements*, New York, The Ronald Press Co., 1934, Chs. 35 and 36.

<sup>20</sup> For a detailed exposition of the development of operating ratios see M. S. Heidingsfield and A. B. Blankenship, *Market and Marketing Analysis*, New York, Henry Holt & Co., 1947, pp. 64-79, or R. Parker Eastwood, *Sales Control by Quantitative Methods*, New York, Columbia University Press, 1940, Ch. IV.

<sup>21</sup> Examples are M. P. McNair, *Operating Results of Department and Specialty Stores*, 1946, and Elizabeth Burnham, *Expenses and Profits of Limited Price Variety Stores*, 1946.

<sup>22</sup> See Walter Mitchell, Jr., *Standard Ratios for Retailing*, New York, Dun & Bradstreet, 1940; *Retail Operating Ratios for Men's Furnishings Stores*, New York, Dun & Bradstreet, 1946; and Edgar H. Gault, *Departmental Merchandising Results in Small Department Stores*, University of Michigan, Bureau of Business Research, 1944 and 1945. These sources are suggested for current data. See also Robert L. Tebeau, *An Index to Operating and Financial Ratios*, Master's Thesis, New York University, Graduate School of Business Administration, 1947.

ratios than the latter show net losses for the period under study.<sup>23</sup> This figure of 18.6 per cent then becomes the upper tolerance limit, and operating results approaching or exceeding it are genuine danger signals. In setting the lower limit of such a ratio, it is common practice to take some statistical measurements such as the lowest quartile, which would mean, in this case, that one-fourth of the firms under study have lower ratios of sales wages and salaries to net sales than the balance of the companies. The study used as an illustration shows 9.7 per cent as the point below which the ratios for one-fourth of all firms fall. This becomes the lower limit, which it is desirable for the ratio of the company whose data are being analyzed to approach.

The marketing researcher should be fully aware of the difficulty of developing standards which are based on the experience of several firms and then applied for the analysis and control of the operations of one. There are many disturbing factors which necessitate the exercise of extreme caution in the adoption of standards, and emphasize the importance of carefully considering the history and peculiar characteristics of the particular enterprise to which they are to be applied. Some of these factors are the following:<sup>24</sup>

- Changes in the general level of prices.
- Fluctuations in business activity.
- Seasonal variation.
- Changes in managerial policy.
- Effect of legislation and government policy.
- Geographic location.
- City size.
- Size of business enterprise.
- Distribution methods.
- Nature of product.
- Type of customer.
- Accounting methods and practice.

Most of the work on establishing control standards has been based on analysis of internal operating records. There is a movement, however, to correlate these standards with external data and with less precise, qualitative factors which may be taken into account in standard setting. For example, the frequency of purchasing has

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<sup>23</sup> This point does not represent the experience of an individual firm, but is the average ratio of a group which showed an over-all loss result. For examples of ranges of usual profitable experience, see Walter Mitchell, Jr., *op. cit.*

<sup>24</sup> For a detailed discussion of these factors and the methods for overcoming them, see Eastwood, *op. cit.*

a definite bearing on merchandising costs. Food purchases are made on the average of once a week, home furnishings about every two and a half years, and shoes approximately every two months. The correlation of frequency of purchases with average size of sale and with merchandising services provides a basis for setting operating standards, as shown below: <sup>25</sup>

TABLE 16  
AVERAGE EXPENSES (AS PER CENT OF SALES)  
RELATED TO VARIATIONS IN OPERATING FIGURES

Size of Sale		Frequency of Family Purchases (in months)		Merchandising Services (including none, one, or more of the items below)	
Dollars	Average % Expense	Months	Average % Expense	Cost Item	Average % Expense
50	4	0.1	0	High customer attention and low self-service, or automatic order-taking.	10
15	5	0.2	1		
8	6	0.3	2		
5	7	0.4	3	High style or highly seasonal merchandise.....	4
4	8	2.0	6		
3	10	3.0	8	Bulky merchandise.....	3
2	13	12.0	10	Perishable merchandise.....	2
1	22	48.0	20		
.50	30	120.0	30	Installation, fitting, and servicing...	1
.25	60				

For pricing and other management purposes, total distribution expense may be estimated by adding the appropriate percentage expense figures from each of the three columns. Expense as a percentage of selling price can be computed in this manner for a product line, a department, or a store.

**Merchandise Line Analysis.**—In a merchandising establishment there is a constant tendency to increase the lines handled, the number of varieties, and the various sizes and price items within each line. Because of the desire to have as wide an assortment as possible to meet the varying demands of customers, a broader and more complicated product line is accumulated. This places burdens on the efficiency of the operation, with the danger that many items will be unprofitable because of standard markups, slow movement, and obsolescence. The solution to this problem lies in the development of unit costs, which should be correlated with sales volume to provide a basis for weeding out lines and items that do not properly contribute to net profit. The Melville Shoe Company, for example, has used unit cost data for this purpose:

<sup>25</sup> Chamber of Commerce of the United States, Domestic Distribution Department, Distribution News Letter No. 7, 1947, p. 2.



. . . the three shoe chains of the corporation, including the Thom McAn group, will begin to use an accounting procedure designed to show the cost of selling each pair of shoes in women's, men's, boys' and juvenile types, and also in hosiery. The new procedure may lead to revised mark-up practice, with each product carrying its fair share of distribution costs, including freight, display space and expense, time of sales person in serving customers and other elements. . . . Unit cost data would aid the merchant greatly in helping him to select and sell the more profitable items.<sup>26</sup>

After variations in cost by items or by lines have been determined, the causes of these differences should be analyzed before making any changes. Various causes of high costs are often discovered as a result of merchandise line analysis:

The aim for lower costs and improved productivity is causing the wholesaler to make some searching examinations of the profitability of the products he handles.

We recently dropped a perfectly salable product because of the sales time or man-hours spent in promoting and selling it which was altogether out of proportion to the time required in our other products, the gross margin of which was equal to the line dropped. We also dropped a furniture line which we handled successfully during the war because of the large amount of floor space it required and the slow turnover which caused a disproportionately larger capital investment than in our other lines. Another line was dropped because of the number of low unit invoices which caused higher handling costs in all departments.<sup>27</sup>

The example in Table 17 shows the results of a breakdown of distribution expenses by product lines for fifteen wholesale establishments. It is based on the allocation of costs to nine product groups, and shows that the unit expense of the highest cost group was three times that of the lowest cost group.<sup>28</sup>

**Merchandising Location.**—The selection of the location of wholesaling or retailing establishments has long since passed the stage when it was determined by the experience of individuals and by a cursory examination of the territory to be served. One factor which has led to the general adoption of scientific location was the experience of the large mail-order chains. Shortly after these organizations went into the retail store business, they found that faulty store location led to serious drains on the resources of the business. Meanwhile, large national chains, having learned that

<sup>26</sup> Ward Melville, quoted in *The New York Times*, December 3, 1944.

<sup>27</sup> Adolph Ullman, "Improving Productivity in Wholesale Distribution," Nineteenth Boston Conference on Distribution, 1947, pp. 34-35.

<sup>28</sup> Cowan, *op. cit.*, p. 156.

TABLE 17

AVERAGE DISTRIBUTIVE EXPENSES FOR NINE PRODUCT-GROUPS  
BASED ON OPERATIONS OF FIFTEEN WHOLESALERS

(Expenses per volume unit are expressed as percentages of average expense.)

Product-Group *	Unit Expense	Product-Group *	Unit-Expense
A.....	79	F.....	64
B.....	81	G.....	121
C.....	65	H.....	110
D.....	98	I.....	193
E.....	89		

\* Average of the groups = 100 per cent.

scientific selection of store location was one of the most important elements in success, relied on established departments which specialized in this function.

The scientific selection of store location is based on a survey of the territory to be served. General economic data showing sales opportunities should be analyzed, as well as traffic and shopping-habits data. After these steps a series of traffic counts should be made for several optional locations. These various factors affecting the desirability of locations should be studied on a trend basis, whenever possible. The techniques for merchandising location analysis have now become generally standardized.<sup>29</sup>

**Physical Layout and Handling of Merchandise.**—Marketing research is being applied increasingly to the problems of physical layout of the merchandising establishment and the physical handling of commodities. In the retail field, the design of store layouts, including decoration and customer facilities, is being based more and more on consumer surveys. The arrangement of stock and displays in order to produce maximum sales is based on studies of customer traffic. While the ingenuity of the designer is still a major factor, he now works on the basis of research data, just as the building architect works on the basis of the findings of the engineer.

Management is coming to realize that one of the best means of reducing the cost of distribution is in analyzing the costs and man-

<sup>29</sup> See Kenneth D. Hutchinson, "Traffic and Trade Correlations: "A Technique in Store Location," *Journal of Marketing*, October, 1940, p. 137; Sidney Hollander, Jr., "A Technique for Spotting Retail Outlets," *Journal of Marketing*, January, 1942, pp. 41-48; and Howard Whipple Green, *Shopping Centers and Street Frontage*, Cleveland Real Property Inventory, 1947.

hours involved in the physical handling of goods. While studies of warehousing, packing, stock handling, and delivery procedures call for the application of engineering techniques, they are quite properly part of the province of marketing research. Use of cost data from comparable establishments may be made in connection with studies of this type. The Department of Commerce conducts surveys on physical handling which are extremely helpful. Examples are the following:

*The Effective Use of Wholesale Drug Warehouses.* (Industrial Series No. 68, 1947)

*Streamlined Wholesale Grocery Warehouses.* (Industrial Series No. 18, 1946)

*A Study of Tobacco Wholesalers' Operations.* (Industrial Series No. 62, 1946)

John D. Sheahan, a distribution research consultant, has said:

I am firmly convinced that the most fruitful field for distribution cost reduction is in storage and materials handling, or, as we call it, "physical distribution." Reduction of these costs is dependent, first of all, on better knowledge of what they are. The costs of internal movement and storage of both goods in process and finished products are only beginning to be understood and methods applied to their control. Companies that can tell within very close limits what it costs to produce an item cannot tell within 10, 20, or 50 per cent what it costs to get that item to the wholesaler, the retailer, the consumer, or whatever point it must reach before they drop ownership. We know that a very great portion of that cost is made up of handling and storage expense. Materials handling wages, it has been authoritatively stated, account for 22 per cent of the average plant payroll.<sup>80</sup>

Sheahan's principles for reducing physical handling costs indicate the items to be explored in a marketing research to reduce these costs. These principles are:

1. Handle materials in large units.
2. Avoid rehandling.
3. Balance men and equipment.
4. Select equipment suited to the job.
5. Move materials in a straight line.

**Other Types of Marketing Research by Merchandising Establishments.**—In addition to the major uses discussed in this chapter,

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<sup>80</sup> John D. Sheahan, "Getting the Goods to Market—At Lower Costs," American Management Association, Marketing Series No. 70, 1947, pp. 29–36.

there are a number of special applications of marketing research in current use by merchandisers.

Studies of effective selling methods are one example. There is always the danger that the wholesale salesman or the retail clerk will turn into a mere order taker. The salesperson generally handles a large number of customers in a day, selling a wide variety of products. As a result, there is a tendency for the buyer to assume control of the sales situation. Research studies not only show methods of increasing sales, but also prove that by following certain methods the salesperson will increase his performance.

Studies of credit policies, sales training methods, and the development of merchandising methods are other examples of the use of marketing research by merchandising establishments. Store hours are frequently a problem, particularly with the rise of labor organizations among store personnel. A study of store hours can be very useful to the retailer.<sup>31</sup> Knowledge of customers' attitudes may even be helpful in connection with personnel relations. Special problems in inventory and stock control may well be solved by the techniques of marketing research. An illustration of one of the more specialized applications of marketing research to merchandising is the study of mortality of retail establishments.<sup>32</sup>

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<sup>31</sup> D. J. Luck, *Store Hours for Shopping Goods Retailers*, Bureau of Economic and Business Research, University of Illinois, 1947.

<sup>32</sup> See Edmund D. McGarry, "The Mortality of Independent Grocery Stores in Buffalo and Pittsburgh, 1919-1941," *Journal of Marketing*, July, 1947, pp. 14-24.

## CHAPTER 8

### DISTRIBUTION COST RESEARCH<sup>1</sup>

**Importance of Distribution Cost Research.**—The sheer magnitude of distribution costs, which place an average burden of approximately 60 per cent on the final cost of commodities, is impressive enough evidence of the importance of distribution cost analysis. Furthermore, as shown in Chapter 2, the reduction of distribution costs offers management the greatest opportunities for securing competitive advantages. The tremendous toll taken by distribution costs, the obvious inefficiencies which are frequently encountered, and the general lack of knowledge regarding the control of distributive activities all point to opportunities for progressive management to make direct reductions in distribution costs.

The problem of reducing the cost of distribution will probably assume increasing importance to management during the foreseeable future. In the long run the tendency will probably be for the cost of distribution, in contrast to the cost of production, to become a higher and higher percentage of the total cost of goods and services to the consumer.<sup>2</sup> This expectancy is perhaps the most basic challenge to the profession of marketing research.

American industry is in a period of broad technological change. In such times every business is forced to struggle continually for the highest efficiency and lowest possible costs in production and distribution. Unit manufacturing costs from 1939 to 1947 increased by approximately 50 per cent, largely because of increased labor rates. The individual company must constantly seek the objective of being in a low-cost position relative to its competitors, for low-cost concerns profit most during a period of technological change and are in the best position to take care of themselves during a depression. Therefore the reduction and control of distribution costs earmark the strong competitive concern.

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<sup>1</sup> This chapter is based largely on the author's article on "The Reduction of Distribution Costs," American Management Association, Marketing Series No. 58, 1945.

<sup>2</sup> See Malcolm P. McNair, "Distribution Costs After the War," *Harvard Business Review*, Spring, 1945, p. 340. See also Paul H. Nystrom, "Coming Changes in Distribution," Sixteenth Boston Conference on Distribution, 1944, p. 21.

A great deal of unprofitable business is conducted by most firms as a result of the marketing policy which emphasizes complete coverage of territories and sales outlets. The emphasis is placed on obtaining the largest possible number of customers, although the bulk of them are often relatively unprofitable and many are actually served at a loss. Distribution cost analysis identifies these profit leaks and forms a foundation for determining those marketing policies which lead to selective selling and the elimination of unprofitable products.

The value to the individual enterprise of a bold attack on the cost of distribution is shown by the achievements of companies who have inaugurated a program of distribution cost analysis and put the findings to work in their day-to-day operations. S. C. Johnson & Sons reports that, as a result of its program, total sales and advertising costs in 1947 were 68 per cent of their average for the period 1939-41.<sup>3</sup> Total field sales expense, including warehousing, was reduced to 55 per cent and sales force expense to 42 per cent of the 1939-41 average.

The competitive value of such a program is emphasized by the report of a survey by *Sales Management* magazine based on data gathered in May and June, 1948.<sup>4</sup> This study of 135 companies in many industries revealed that sales force expense had increased from 40 to 50 per cent since 1939. The reduction of sales force expense by S. C. Johnson, during a period when industry generally was suffering from a large increase in costs, is clear evidence of the value of a specific program of reducing distribution costs.

The experience of The Roundup Grocery Company and its chain of retail outlets illustrates the value of such a program in the wholesaling and retailing field. As a result of research, Roundup established a program known as its "X Plan." Significant in this case is the fact that the goal of the program—the reduction of distribution costs so that the company would be in a better competitive position—was achieved with the concurrent goal of increasing total sales volume, a point stressed in this chapter. The case, with specific data on experience and a summary of conclusions, has been reported in some detail.<sup>5</sup>

**Problems Involved in Reducing Distribution Costs.**—While many techniques which have been developed in the analysis of pro-

<sup>3</sup> Richard D. Crisp, "A Program for Reducing Distribution Costs," American Management Association, Marketing Series No. 70, 1947, p. 25.

<sup>4</sup> *Sales Management*, July 1, 1948, p. 44.

<sup>5</sup> See Rayburn D. Tousley, "Reducing Distribution Costs in the Grocery Field," *Journal of Marketing*, April, 1948, pp. 455-461.

duction costs may be employed in the more mechanical aspects of distribution, it is of primary importance to recognize that the problem of reducing distribution costs is infinitely more complex and difficult. To approach the problem of distribution costs from the limited point of view of the production engineer is inadequate and may be positively dangerous.

There are two essential reasons why the reduction of distribution costs is so much more complex and difficult. The first lies in the nature of distribution costs themselves; the second, in the importance of indirect cost reductions.

Distribution costs are associated largely with human effort rather than with physical machine production, and these human activities generally cannot be reduced to mechanical, repetitive operations. Cost elements in distribution are much more intangible than production costs. Furthermore, rather than being concentrated in comparatively few locations and tied down to a specific area within a plant, distribution activities are spread over the entire marketing area, which frequently represents the whole country.

Another element which illustrates the difficulty of the distribution cost problem is the absence of direct control by one organization, say, the manufacturer, over important areas of distribution activities which place large cost burdens on the product. In production cost work, once the analysis has been made, the manufacturer is in relatively direct control of the operations which he wishes to change. In the field of distribution costs, however, he must work with many others not subject to direct management control, such as the dealers who distribute his product.

Finally, even though the engineer may be impressed by the complexity of the production of a dentifrice or a mechanical refrigerator, the materials, parts, and processes involved in their production are nothing compared with the multitude of activities involved in their distribution from factory door to the consumer's home. The sheer multiplicity of persons, efforts, and activities involved in the simplest distribution operation makes even the determination of costs an extremely complex operation.

The second difference is that in the field of distribution, indirect reduction of costs through positive increases in marketing effectiveness is often much more important than the direct reduction of costs through the purely negative cutting of a distribution expenditure.

In a program to reduce factory costs, one begins with specific materials and operations for which costs are usually well established. The problem is essentially to employ scientific measurement in order

to discover means of directly reducing the cost of various operations from these previously established levels. In the field of distribution there are a number of areas in which this approach is fruitful and appropriate. For example, when costs of travel or physical transportation are found to be excessive, rerouting of salesmen or goods can effect important direct reductions in costs. On the other hand, the arbitrary reduction of a sales commission, a distributor margin, or an advertising budget may lead in the long run to sharply increased distribution costs.

One must distinguish at all times between a distribution expenditure and a distribution cost. Distribution costs are the product of accomplished sales effectiveness achieved at a given expense. An increase in sales effectiveness may vastly offset the necessary increase in gross expenditure, with the ultimate effect of a reduction in distribution costs per unit of production. Only after the assembly of all the facts can the marketing researcher, looking toward the ultimate reduction of distribution costs, determine whether the wisest course of action will be attended by an increase in distribution expenditure or by an immediate decrease.

The possibility of increased expenditures to effect long-range cost reduction is not to be ignored in the best production cost reduction programs. But there is a constant drive toward the immediate reduction of direct costs. In the marketing field, however, the sheer accomplishment of more effective sales efforts, sometimes without any apparent measurable decrease in total costs, is often the most effective road to reduced distribution cost ratios.

The United States Chamber of Commerce makes the following comment on reducing distribution costs:

Without losing sight of the need for making all expenditures necessary to meet competition and to expand markets for consumers' goods, stringent efforts should be made to discover and eliminate wasteful practices wherever they may occur. . . .

It must always be kept in mind that arbitrarily reducing expenditures without first determining the net effect of such reduction may lead to increased distribution cost ratios and that increasing effective expenditures may often be the means of ultimately reducing costs.<sup>6</sup>

### Program for Reducing Distribution Costs

In planning a program for reducing distribution costs, it is important to appraise all factors bearing on a given operation before

<sup>6</sup> See *Distribution Costs in Expanding Markets*, Chamber of Commerce of the United States, Domestic Distribution Department, 1946, pp. 20-21.



taking radical action. There is a tendency on the part of less experienced researchers to eliminate ruthlessly some element which is a cost factor without fully analyzing the results of such action. One manufacturer arbitrarily discarded a large number of small customers, because of the disproportionate amount of sales expense encountered, without analyzing this group by individual customer. The result was a substantial loss of business from small customers whose potential was overlooked, and who would have been retained had the research been conducted with sufficient care to eliminate those without real potential, while retaining those who could be developed by proper cultivation. The *temporary* reduction of distribution costs is not the proper approach to the problem. Only through a long-range program can one develop the optimum balance between adequate market development and efficient operation from a cost point of view.

The following is suggested as a seven-point program which can be adapted to almost any business enterprise:

1. Know your distribution costs accurately, and in as much detail as possible.
2. Provide an adequate accounting procedure for reporting data on distribution costs.
3. Evaluate costs in relation to functions performed.
4. Find wastes in internal distribution costs.
5. Find wastes in outside channels of distribution.
6. Obtain comparative data for distribution costs from comparable fields.
7. Establish a specific program to reduce distribution costs.

**Knowing Distribution Costs.**—The lack of understanding of true distribution costs by management is appalling. Some years ago, a manufacturer of industrial products was under the impression that distribution was not one of his major problems. The president of the company, when asked what distribution costs were chargeable against his product, replied, "Very little, about 5 per cent." Inquiry revealed that his concept of distribution costs was limited to his own salesmen's compensation, salesmen's expenses, and advertising. He did not include many internal costs, such as salaries of a number of high-priced executives who spent all or a major portion of their time in selling and distribution activities, any portion of general administrative expense, or credit and invoicing costs. He also failed to include any outside distribution costs, such as margins allowed his exclusive distributors, not realizing that these were cost burdens

against his product. His true total cost of distribution was in the neighborhood of 28 per cent, when compared with that of competing manufacturers who were selling directly to jobbers.

Another manufacturer, who distributed through a large number of dealers, some controlled and some independent, wanted to determine precisely the detailed operating cost data required. After many months of study, a fairly large share of his distributing costs was traced to the sale and delivery of a certain type of order to a certain type of dealer.

**Providing Adequate Accounting.**—The accounting systems of many business enterprises are a great handicap to marketing executives because they are the product of traditional needs for production cost control and financial operating purposes. The result is that they fail to reveal current operating data vital to the efficient conduct of distribution.

Accounting procedures should be revised if they fail to provide needed marketing data. A case in point is that of a large food manufacturer who had a tremendous volume of accounting data regarding a certain product line, none of which provided a basis for some of the most significant marketing decisions. Several months of digging in the records revealed that he was losing money on one type of product yielding volume, but that another type could be made to produce a larger volume at a much lower cost. This analysis was then employed as the basis for a marketing program for the latter product, which has since become the most profitable item in the manufacturer's entire business.

Another case is the recently reported experience of a retail shoe store chain, which has changed its accounting procedures in order to allocate sales costs properly to various individual items in the line, differentiating not only between products, but also between styles and price lines.

The foundation of the reduction of distribution costs is the proper identification of costs by products, customers, territories, and types of orders. The most difficult problem is that of properly allocating the indirect marketing expenses. The starting point is to measure direct expenses and assign them to products, customers, or other units being brought under control. Many firms do not even have this knowledge to guide marketing policy.

However, in determining whether to discontinue a product or customer, or whether more sales effort is needed to bring the operation into a more profitable zone, the assignment of indirect costs

TABLE 18

## FUNCTIONAL COST GROUPS AND BASES OF ALLOCATION TO PRODUCTS AND TO CUSTOMERS

Functional Cost Groups	Bases of Allocation	
	To Products	To Customers
1. <i>Investment in finished goods</i> Taxes, insurance, and interest on inventory of finished goods.	Average inventory value	(Not allocated)
2. <i>Storage of finished goods</i> Warehouse rent, or taxes, insurance, depreciation, maintenance and repairs on warehouse buildings. Heat, light, etc.	Floor space occupied	(Not allocated)
3. <i>Inventory control of finished goods</i> Salaries—stock record clerks. Overhead charges. <sup>1</sup>	Number of billing lines	(Not allocated)
4. <i>Order assembly</i> Salaries—warehouse receiving and shipping clerks. Packing and shipping supplies. Overhead charges. <sup>1</sup>	Number of standard handling units	Number of billing lines
5. <i>Transportation</i> Freight, truck, express, parcel post, etc.	Weight or number of shipping units	Weight or number of shipping units
6. <i>Sales solicitation</i> Salesmen's salaries, commissions, and traveling expenses. Sales clerical salaries. Sales correspondents' salaries. Sales engineers' salaries. Sales executives' salaries, and travel. Overhead charges. <sup>1</sup>	Time studies or estimates	Time studies, number of sales calls or estimates
7. <i>Advertising</i> Advertising space and media costs. Advertising production costs. Advertising executives' salaries. Overhead charges. <sup>1</sup>	Direct, i.e., cost of space, etc., of specific product advertising <sup>2</sup>	Direct, i.e., cost of space, etc., of specific customer-class advertising <sup>2</sup>
8. <i>Order entry</i> Salaries. Overhead charges. <sup>1</sup>	Number of invoice lines	Number of invoice lines or orders
9. <i>Credit extension</i> Salaries. Overhead charges. <sup>1</sup>	(Not allocated)	Number of invoices
10. <i>Billing</i> Salaries. Overhead charges. <sup>1</sup>	Number of invoice lines	Number of invoice lines
11. <i>Accounts receivable</i> Salaries. Overhead charges. <sup>1</sup>	(Not allocated)	Number of invoice lines

<sup>1</sup> Includes portions of space, equipment, supplies, and supervision charges which may be divided among the functional cost groups on the basis of total direct salaries of function, amount of space occupied by function, value of furniture and equipment, etc.

<sup>2</sup> Institutional advertising not allocated.

should be made to lessen the hazards of a hasty decision based only on knowledge of direct costs.

Indirect expenses are established on the basis of functional cost groups. These expenses are assigned to products or customers on the basis of the extent to which they utilize the activities giving rise to them. One scheme for such analysis is shown in Table 18.<sup>7</sup>

In setting up a procedure for the allocation of distribution costs, one should guard against the establishment of an elaborate cost accounting system which in itself becomes an exorbitant cost factor by producing such a maze of detail that the results are confusing. The best procedure is to select a small unit, a minor product, or a small territory, and to experiment with different methods of analysis and control until a definite pattern has emerged and justified itself. Cost allocations are relative, rather than absolute, and good judgment and experience are necessary to produce results which are effective in the long run.<sup>8</sup>

**Evaluating Costs in Relation to Marketing Function.**—After distribution costs have been determined, it is most important in the marketing field to analyze the functions performed in relation to their cost. Merely to seize upon an apparently high cost and force a reduction is extremely dangerous. It is difficult, and requires a high degree of marketing skill, properly to analyze marketing functions in relationship to cost. But without critical examination of functions, cost data are likely to lead one far astray.

An illustration of this point is the attempt to eliminate some link in the distribution chain. Time and again manufacturers have decided to cut a corner, only to discover that distributors were performing functions which fully warranted their existence. Manufacturers have frequently found that their own costs of performing particular functions were higher than the costs of distributors employed by competing manufacturers to perform the same functions. On the other hand, analysis often reveals that established distributors are no longer performing vital functions but are exacting a high toll from the products they handle.

The experience of one manufacturer illustrates the importance of functional analysis extremely well. He was beset by price competition from integrated, low-margin competition on the one hand, and by the high distribution costs of his own dealers and distributive

<sup>7</sup> Charles H. Sevin, "Some Aspects of Distribution Cost Analysis," *Journal of Marketing*, July, 1947, p. 97.

<sup>8</sup> See Thomas W. Leland (ed.), *Contemporary Accounting*, New York, American Institute of Accountants, 1945, and *The Uses and Classifications of Costs*, National Association of Cost Accountants Bulletin, May 15, 1946.

mechanism on the other. It seemed that he must either lose his own identity and place himself at the mercy of certain powerful distributors or fight a battle which he knew would be a losing one because the sheer economics of the situation were against his traditional distribution system. A careful analysis of costs related to functions performed by all factors of distribution in his line was made from his own records and through field surveys, and two keys which solved his problem were revealed. First, he found that the costs of his own system were not out of line with those of his toughest competition for certain vital functions performed. Second, he discovered that with careful streamlining he could perform the basic distribution functions so that his total cost differential was comparatively slight. As a result, he realized that under these circumstances the distribution of his products would be sufficiently superior in terms of functions performed to more than justify his pattern, insure a fully adequate share of total sales volume, and yet enable him to compete fully with anyone.

**Finding Internal Wastes.**—One of the chief handicaps to progress in the reduction of distribution costs has been a rather widespread lack of appreciation of the importance of internal costs—namely, those burdened against the product before it is placed in the hands of a distributor or retailer. The high percentage margins required by retailers and other distributive agencies have drawn the attention of management and students to these external costs. However, experience has shown that the hidden distribution costs within the manufacturer's or wholesaler's own organization frequently provide great opportunities for cost reduction.

One interesting case which illustrates the importance of internal wastes is that of a wholesale house which in one year went from a 7 per cent loss on sales to a 12 per cent net profit. The records show that there was a very slight increase in volume, and that this difference in profit result was almost entirely traceable to the reduction of direct costs by the discovery and elimination of internal wastes. One of the chief wastes found was in the sizes and varieties in the line. The analysis showed rather quickly that this firm had accumulated a number of side lines, several of which would not have justified their inventory cost even if the full requirements of all the customers in these items had been sold. It was also found that a great deal of sales time was being spent on customers who either were too small to bother with or were largely buying these side-line items rather than the merchandise which returned a real profit to the firm.

Sales costs were greatly reduced by the simple process of listing all accounts for each of twenty-seven sales territories and showing for each account the following basic information: city, purchases for two accounting periods, returned goods, markdowns, credit status, number of times called on by salesmen, estimated total purchases from all sources, and estimated total requirements in lines sold.

Approximately 3,000 of the firm's 9,000 active accounts were thrown out as a result of this analysis. An important element in this case history is that the specific recommendations, account by account, were reviewed with the salesmen so that there was complete agreement as to which to eliminate. In the process of this review, sales education, which was most important to the general toning-up of the sales organization, was also achieved. Another interesting result was the discovery that in one sales territory the sales costs were 48 per cent of gross sales, compared with an average of 17 per cent for the company. One city was found in which sales costs were over 80 per cent of sales volume in the current period. This case is a dramatic example of the results which have been achieved by finding internal wastes.

Of course, not all marketing operations have such obvious distribution wastes. But unless internal distribution costs have been analyzed, one never knows what conditions may exist. Broad experience has proved time and again that these wastes are present, and that major savings in costs can be achieved in distributing organizations which, by ordinary standards, may be considered to be among the more efficient ones.

**Finding Outside Wastes.**—Very few business enterprises are involved in all the distribution processes from producer to consumer. Characteristically, the manufacturer's product is handled by a large number of distributors, while the retailer at the other end of the chain handles products against which distribution costs have been placed before he receives them.

By and large management fails to appreciate the fact that the burden placed against products at any point in the distribution system is of direct concern to each factor. The view must be adapted that whatever one's immediate concern in the distribution process may be, he cannot escape responsibility for doing something about the total burden against the products or merchandise from which he makes his livelihood.

The process of finding external wastes in distribution begins, of course, with a cost analysis. It must be accompanied by a manage-

ment point of view that is prepared to challenge traditional channels of distribution and the various pressures which support traditional margins and methods of doing business.

One interesting case of external wastes concerns a company that decided to analyze the operating costs of several different types of establishments handling its product. It was discovered that many of these channels were working in the dark, ignorant of the facts about the costs of handling competitive products, and that any one class of outlet seldom had any real conception of the true cost position of other classes. Most important of all, when the manufacturer had developed specific facts regarding distribution costs, these could be employed as evidence to make it possible for him to obtain the most desirable retail representation on the right basis and with enthusiastic support for his program.

**Obtaining Comparative Data on Distribution Costs.**—One of the problems in the total effort to reduce distribution costs is the lack of comparative cost data. A basic need of marketing today is for a greater body of information on specific distribution costs in various fields. While a large amount of general cost information is now available, the chief need is for more detailed data regarding specific, detailed cost items. Furthermore, a vast increase in the total body of information is needed, covering more commodities, functions, and operations. The accumulation of these data is a slow process, but their existence will earmark general progress in the marketing field.

The interest of the government in distribution costs has led to a number of studies by various branches, most of which provide useful data on general costs for various industries and functions. These studies also suggest specific cost items which the marketing researcher can investigate in connection with a particular problem. For example, one study calls attention to the fact that the principal factors accounting for high distribution costs for biscuits and crackers are the high expenses for salesmen's salaries and for advertising per dollar of sales. On the other hand, in the case of beet-sugar manufacturers, the high amounts paid for storage are a principal factor in their relatively high costs.<sup>9</sup>

Table 19 shows an example of a breakdown of distribution costs available from a governmental source.<sup>10</sup>

<sup>9</sup> *Distribution Methods and Costs*—Part I, "Important Food Products," Federal Trade Commission, 1943, pp. 4–5.

<sup>10</sup> *Distribution Methods and Costs*—Part III, "Building Materials," Federal Trade Commission, 1944, p. 8. Other studies in this series cover petroleum products, automobiles, tires, electrical household appliances, agricultural implements, milk, and fish.

TABLE 19

PRINCIPAL ITEMS OF COST OF DISTRIBUTION FOR GROUPS OF PAINT AND VARNISH MANUFACTURING COMPANIES  
USING VARIOUS CHANNELS OF DISTRIBUTION, IN 1939

Principal Channel of Distribution	Compen- sation of Sales Force	Brokers' Commis- sions	Adver- tising	Outward Transpor- tation	Other Expenses	Social Security Taxes	Bad Debts	Profit
Wholesalers.....	\$13.94	\$ 0.03	\$2.40	\$3.84	\$6.58	\$0.54	\$0.57	\$ 7.62
Wholesalers and retailers.....	13.27	.20	3.31	2.91	6.11	.58	.77	7.15
Industrial concerns...	12.46	.08	1.37	2.85	4.77	.31	.27	17.13
Retailers.....	13.83	.08	3.61	3.75	7.28	.52	.36	7.81
All classes...	11.56	.22	2.87	1.77	6.39	.66	.33	6.58
Brokers.....	11.94	13.44	2.04	2.74	5.03	.45	.38	14.81
Average.....	\$12.48	\$ 0.43	\$2.94	\$2.49	\$6.30	\$0.59	\$0.47	\$ 7.70



Individual business enterprises, rather than foundations, governmental agencies, universities, and other public bodies, should take the lead in developing comparative cost data. The data obtained should be made available to other companies facing similar problems and to trade associations.

**Establishing a Program to Reduce Distribution Costs.**—The final step in reducing distribution costs is to establish a definite program which will apply the modern tools of distribution research and analysis in a planned manner so that, as each sales period passes, specific progress in the reduction of costs will be achieved. To attempt to cut distribution costs at all points through one general analysis can only serve to dissipate effort. Furthermore, the greatest progress can be made by selecting the specific areas which offer the greatest opportunity for immediate improvement and concentrating on them. If the program is to succeed, it is essential to define these areas and to establish a time schedule for attacking the critical problems.

### A Check List for Distribution Cost Research

Knowing *where* to look in each situation for the opportunities to reduce distribution costs is frequently the most important skill of the marketing analyst. The suggested check list is based on observation of a substantial number of actual cases, and is purposely confined to twenty-five aspects of distribution in which distribution cost analysis has proved most valuable in the past.

1. Simplification of the product line.
2. Elimination of dead items, sizes, varieties, etc.
3. Fitting the product to the specific requirements of the market.
4. Reduction of packaging costs.
5. Elimination of losses due to improper packaging.
6. Relating warehousing and storage facilities to the market.
7. Analyzing transportation and delivery practices in the light of market requirements.
8. Appraisal of wholesale distributing costs in relation to functions performed.
9. Evaluation of individual retail outlets—weeding out of accounts and restrictions on order size.
10. Elimination of high-cost sales territories.
11. Analysis of new potential outlets to intensify distribution.

12. Critical analysis of all retail operating costs in relation to functions performed.
13. Measurement of sales potentials by areas, cities, sections, or dealers.
14. Analysis of how salesmen spend their time.
15. Reduction of sales travel and expense.
16. Analysis of the effect of salesmen's compensation methods on distribution costs.
17. Study of the effectiveness of sales presentation procedures.
18. Reorganization of the sales training program with a check on effect on sales-cost ratios.
19. Appraisal of total advertising burden against product.
20. Checking productivity of advertising media.
21. Measuring opportunities in new media on a sales-cost basis.
22. Analysis of advertising budgets by territories, cities, etc.
23. Testing effectiveness of advertising copy against sales standards.
24. Elimination of waste in sales promotion materials, such as dealer displays.
25. Analysis of distribution cost trends over a period of time.

## CHAPTER 9

### QUANTITATIVE MARKET ANALYSIS

Quantitative market analysis determines the *amount* of a commodity which the market can be expected to absorb. A study which estimates the amount of breakfast food which the entire domestic market, various geographic sections, or different groups of consumers should be expected to buy is an example of a quantitative market analysis.

The term "sales potential" refers to an estimate of the capacity of any given market to absorb a commodity in the light of the general limitations of its past behavior. The theoretical power which might be developed from a gallon of gasoline is greatly in excess of the maximum power which can be developed with present machinery. Just as the engineer must make his measurements of power in the light of the combustion efficiency of machinery now in use, the market researcher must measure the power of markets to absorb commodities in the light of customs and buying habits which affect the expression of that power.<sup>1</sup>

The primary activity in quantitative market analysis is the development of sales potentials. Limiting factors, such as demand-creation efforts, competition, and business conditions, should be considered only in so far as they are reflected in definite long-run buying habits. These sales potentials become the foundations for setting quotas and for similar activities. They are a scientific meas-

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<sup>1</sup> Definitions of some terms used in quantitative market analysis:

(1) Sales or Market Potential—an estimate of the capacity of any market to buy a commodity. This estimate may be stated in absolute numbers of physical or dollar volume, or may be stated in terms of the percentage of the total consumption which any individual section of the market has the capacity to buy.

(2) Sales Quota or Sales Budget—an estimate of the amount of a commodity an individual firm expects to sell in a market within any given period of time. The sales quota may be based upon a sales potential, but it differs from the sales potential in that it sets a goal which should be reached within a specific period of time, taking variations in business conditions, competition, and other factors into account. The sales potential is set for an industry, the sales quota is set for an individual firm or unit within that firm's operation, such as a dealer or salesman.

(3) Market Factor—a statistical series, such as total population, number of persons living on farms, or number of persons filing income tax returns, which is used for setting a sales potential for any section of a market.

(4) Market Index or Sales Index—a market factor in which the data for individual parts of the market have been reduced to a percentage of the total for the entire United States.

urement of the power of markets to buy a commodity, and should be used as a basis for market planning.

**Importance of Quantitative Market Analysis.**—The broadest and most fundamental aspect of quantitative market analysis is that it provides business management with a basic understanding of many aspects of its marketing operation and establishes a foundation for marketing control, over and above the day-to-day applications in quota work and other specific uses. To one engrossed in quota work these values may appear unimportant by-products.

The general understanding of the condition of a company's marketing operation which results from applying quantitative analysis is illustrated by the example of the "X" Company, discussed later.<sup>2</sup> The objective of the sales potentials in this case was merely to distribute the sales force geographically. But the most important result of the study was the way in which it showed the executives of the company entirely unsuspected facts about their sales operation. It led to a complete reorganization of the sales personnel. The company gained confidence by knowing that it could support the salesmen in each territory because there was an adequate volume of business for each man to solicit. On the other hand, the company knew that there were no territories in which the selling organization was so undermanned that a large volume of business was being lost. In addition, a new understanding and enthusiasm swept the entire organization, resulting in a general increase in sales efficiency because of the knowledge that the activity was properly balanced and directed.

The need for repeated quantitative market analysis as a basis for providing continually fresh and accurate potentials is emphasized in a discussion of shifts in markets which occurred during the period 1941–45.<sup>3</sup> The fluctuations affecting potentials cited included the following:

1. Kind of products consumers want and need.
2. Changes in age composition of the population.
3. Changes in income.
4. Shifts in sex distribution.
5. Population shifts.
6. Decentralization of population.
7. Shifting industrial markets.

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<sup>2</sup> See page 166.

<sup>3</sup> See Arthur Hirose, "Market Research as a Practical Help in Reconversion Problems," *Journal of Marketing*, April, 1945, pp. 342–349.

While this was a wartime period, changes in the business cycle, industrial development, and other factors make constant revaluation of potentials equally significant during other periods.

### The Uses of Quantitative Market Analysis

The results of quantitative market analysis may be applied in many different ways in business operation. In some cases one use may be emphasized, in others a relatively large number. While the following discussion is not all-inclusive, it indicates the most common applications of such studies to different phases of business management.

**Total Sales Quotas.**—The results of quantitative market analysis can be used as a basis for setting the total sales quota for an individual firm. A sales quota is an estimate of the amount of a commodity which a company plans to sell. It may be the share of the total market which the firm expects to appropriate to itself, the amount of sales sought in one of its sales territories, or the sales goal for an individual salesman or dealer.

The establishment of the total sales quota for a company is the chief purpose of long-range trend analyses—which indicate the probable future consumption of a product. In view of the importance of production in anticipation of demand, it is essential that a firm consider the future capacity of the market to absorb its product. With sound knowledge of the future market, it can establish a rational sales quota. This quota in turn becomes the basis for production schedules, financing, advertising and sales budgets, plant expansion, and other aspects of business planning.

Quantitative forecasts of the automobile market have been used as a basis for planning by the General Motors Corporation. The retooling of a plant and additional machinery for the production of new models, the planning of demand-creation activities, the hiring of personnel, and the financing of these operations are all predicated on the assumption of a market which will absorb the amount of product to be produced. Companies have gone so far as to use quantitative trend analyses for such an unusual purpose as a basis for bank borrowings to finance advertising campaigns.

A distinction should be made between sales forecasts, such as those discussed in the section on market trends in Chapter 13, and the broad estimates of market potential, which are in the province of quantitative analysis. In the latter instance the objective is to

produce a quantitative measure of the potential market for a commodity without particular reference to specific time periods. While estimating the extent of the market for a given product is one of the most difficult tasks of marketing research, it is generally possible to do so within reasonable limits of accuracy. The most difficult situation arises when an entirely new product is involved. The total volume of the market for soap can be established very accurately, but when an entirely new type of soap is introduced it is impossible to forecast with similar accuracy the rate at which consumers' buying habits will change. Even so, marketing research can take much of the guesswork out of such a situation with pretests, consumer surveys, and limited marketing experiments.

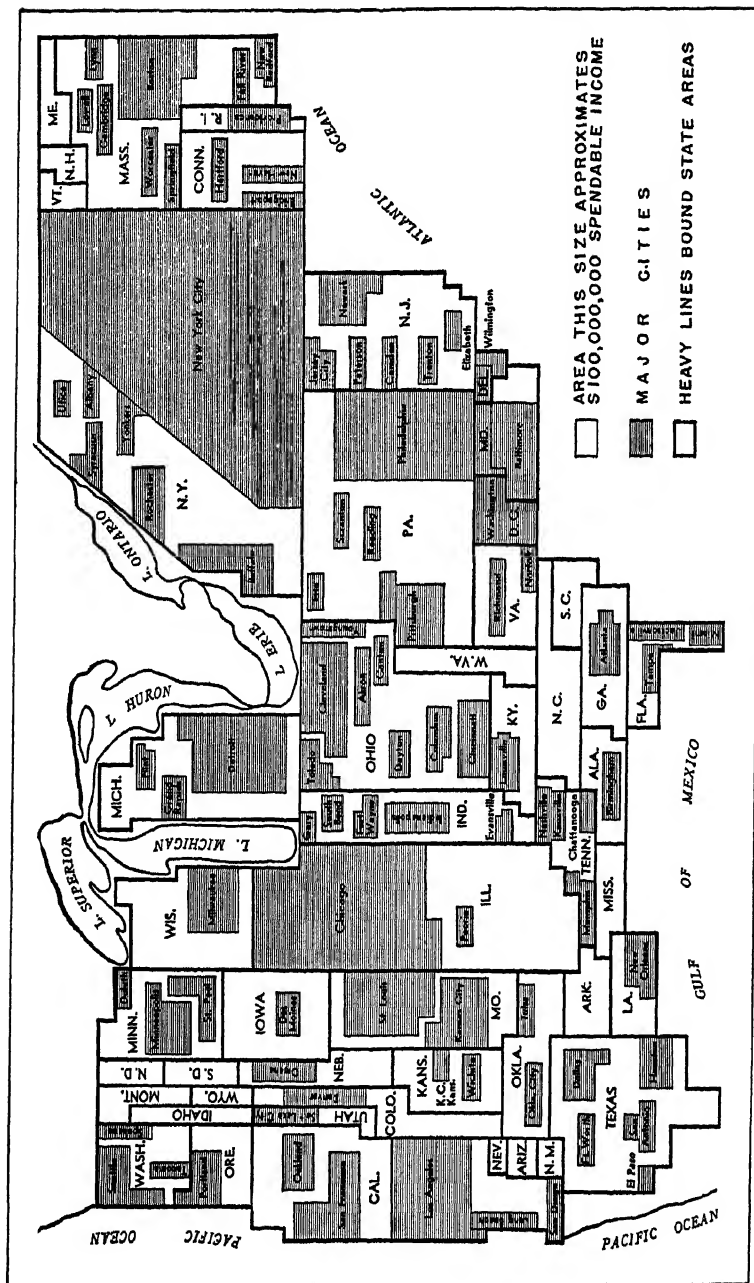
A useful device for gauging the total market for a product is the market saturation test, which consists of deliberately concentrating promotion activities in certain test markets and measuring the points at which consumption levels off. The Silex Company selected Peoria, Illinois, as a test market in which to place huge quantities of sales effort and advertising promotion. In the first six months of the operation it was found that sales rose 1,760 per cent over a comparable period in a prior year. When the saturation point was established, sales were related to current buying power, and the ratio was projected on a national basis. The company decided to continue the program for at least two years.<sup>4</sup> One of the advantages of market saturation tests is that since data relating the development of potential to costs are available, it is possible to draw curves of saturation obtained at various cost levels. These curves help to determine the total potential for a product.

**Territorial Sales Quotas.**—A second major use of quantitative market analysis is as the basis for setting territorial sales quotas. These quotas are estimates of what a given sales district should buy and are predicated on measurement of the potential capacity of each territory to absorb the product. The first efforts at quantitative analysis were for this purpose, and this use is probably the most common one today. These territorial quotas are used as a basis for various forms of sales control, especially in directing the efforts of the sales department. They may also be used as a basis for directing the shipping of merchandise to different markets.

The method of using market potentials in establishing territorial sales quotas must be developed to meet the specific requirements

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<sup>4</sup> J. M. Moore, "What Will Normal Sales Be After Market Saturation," *Advertising and Selling*, January, 1947.



of each individual firm.<sup>5</sup> There are five essential steps, however, which must usually be included in each operation.<sup>6</sup> These steps are:

1. Establishing market potentials for the territory.
2. Adjustment for business conditions.
3. Adjustment for past competitive performance.
4. Conversion to the attainable quota.
5. Adjustment for seasonal variation.

**Quotas for Individuals.**—A third use is in setting sales quotas for individual salesmen or dealers. In setting this type of quota the past performance of individuals and dealers and the possibilities of scientific personnel management are very important, but the total capacity of the market to absorb the product should still be a fundamental consideration. There have been many examples of salesmen who were believed to be particularly productive, and then were later found to be relatively weak in the light of the true potential capacity of the market in which they were operating. The opposite condition is equally common.

Quotas for individual salesmen may be applied as a basis for remuneration, for special incentives, for promotion or demotion, and for other forms of sales control. Quotas for dealers are used as a basis for stimulating dealer activities and selecting channels of distribution.

The most common procedure for setting sales quotas for individual salesmen or dealers is to take the territorial quota and distribute it among the salesmen or dealers on the basis of the percentage of total sales for some previous period.

**Boundaries of Sales Territories.**—A fourth use is in establishing boundaries for sales territories and routing salesmen. In the past, sales territories have been based largely upon the number of dealers to be covered and the railroad facilities available. The use of the automobile by salesmen has made transportation facilities more flexible, hence a less important element in determining marketing boundaries. Meanwhile, quantitative analysis has shown the importance of concentrating sales efforts in the most productive sections of

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<sup>5</sup> For a more complete discussion of methods of setting sales quotas, see H. R. Tosdal, *Introduction to Sales Management*, New York, McGraw-Hill Book Co., Inc., 1940, pp. 69-91; Herman C. Nolen and Harold H. Maynard, *Sales Management*, New York, The Ronald Press Co., 1940, Ch. 7; and Paul H. Nyström, Ed., *Marketing Handbook*, New York, The Ronald Press Co., 1948, pp. 839-864.

<sup>6</sup> For specific examples showing the mechanical calculations necessary for applying potentials to obtain sales quotas, see Lyndon O. Brown, "Quantitative Market Analysis," *Harvard Business Review*, Winter, 1937, pp. 233 ff. For a discussion of the breakdown into seasonal quotas, see Anthony E. Cascino, "Why Realistic Dealer Quotas Allow for Seasonal Variation," *Sales Management*, August 15, 1948, pp. 108-111.



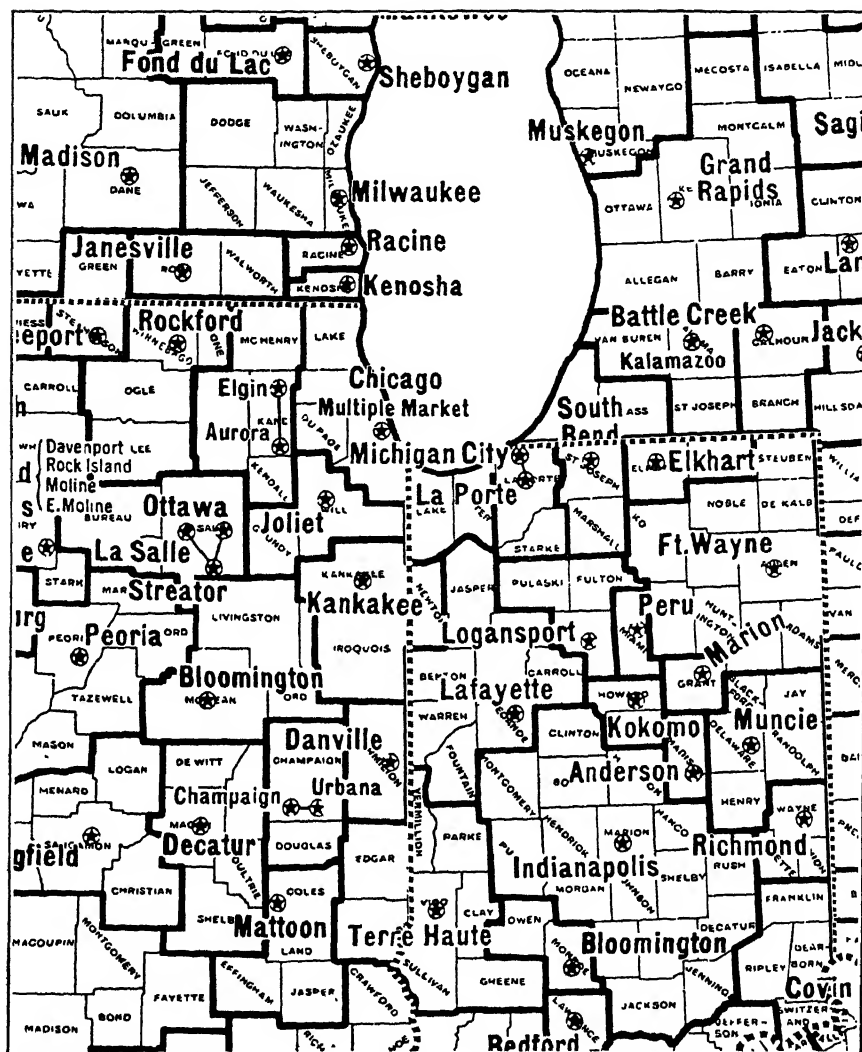


Figure 10. Section from a Marketing Map

The United States is divided into 613 key trading areas, on the basis of 33 business factors. The ten largest multiple trading center markets are further subdivided to delineate minor trading centers. This trading area system has been used by a large number of firms as a basis of sales control and for the reporting of consumer durable goods sales by several industries. It is continuously being revised by its author, Luke J. McCarthy, Vice President of Hearst Magazines, Inc. Copyright 1948.

markets and has led to policies of selective distribution. Thus, the sales territories are planned to lead to a concentration of sales pressure on the larger and more profitable markets.

One of the earliest efforts to get manufacturers to arrange their sales territories on the basis of quantitative analysis was made by Grisell in 1923.<sup>7</sup> Working on the basis of an analysis of daily newspaper circulation, he divided the country into 745 marketing areas. Since that study, many organizations have set up sales territory maps, based on quantitative market analyses. An outstanding effort is that of the International Magazine Company. Their marketing territories are reported to have been used by over 5,000 manufacturers in setting up their sales territories.<sup>8</sup>

**Concentration of Sales Efforts.**—A fifth use of quantitative market analysis is as a basis for selecting territories in which to concentrate sales efforts, or for dropping territories from the market which a firm cultivates. One of the general results of the increased acceptance of quantitative analysis has been a tendency on the part of manufacturers, especially the smaller ones, to concentrate sales activities in relatively limited markets. The Brockway Truck Company increased sales by 25 per cent by discarding thirty-seven states from its market. The practice of concentrating selling efforts in the more productive markets in order to balance expenditures against potential is now generally accepted marketing practice.

Quantitative analysis has also been used as the basis for the zone method of sales expansion. This development policy is based on the principle of cultivating the most profitable territories first, then gradually expanding into the general market. Dr. Pepper, Hills Brothers, and other companies, have used this method.

One of the most profitable uses of market potentials in connection with the concentration of sales efforts is the development of "key markets." In certain metropolitan areas of larger cities sales potentials for most products are so concentrated that successful marketing policy generally involves careful scrutiny of a rather limited number of closely knit areas known as key markets. Through quantitative analysis the true significance of each of these markets to sales success is determined, and they become definite target areas for concentration.

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<sup>7</sup> *Trade Areas for Budgetary Control Purposes*, New York, Batten, Barton, Durstine, and Osborn, 1923.

<sup>8</sup> *The Trading Areas System of Sales Control*, New York, The International Magazine Company, first published in 1923, revised from time to time in pamphlet form, and currently developed for a number of different industries.

The importance of the use of quantitative market analysis in this manner has been expressed by one writer as follows:

There is a basic pattern in American marketing of *concentration of potential* in a relatively small number of major markets.

To illustrate this pattern, let's use the wholesale grocery trading areas of the Department of Commerce. There are 184 such areas. But *20 of them . . . less than 11% . . . represent more than 50% of the total retail sales potential of the entire country.*

This basic pattern is important to every firm selling nationally. It means that a smart competitor, selling in only 20 markets, could reach half the potential which is available to a firm selling in every city, town and hamlet in the country . . . with obvious savings in selling costs as a result of the *selective cultivation of concentrated potential.*<sup>9</sup>

**Distribution of Sales Force.**—A sixth use of quantitative market analysis is as a basis for distributing the manpower of the sales force. The Kellogg Company, for example, studied its distribution of salesmen, with the result that additions were made in some territories, while in others the numbers were reduced. It has been reported that the executives of the firm were convinced that such adjustments, in the light of potential markets, considerably increased the efficiency of its selling operations.

An example of the use of quantitative analysis in distributing the sales force geographically is that of a large manufacturer of a specialty product referred to earlier as the "X" Company. After the sales potentials for each territory had been determined, an analysis of sales records disclosed the sales volume required to support an adequate income for a typical salesman. The sales potentials, in dollars, for each territory were then divided by this volume figure to determine the number of active salesmen which each territory could support.

Table 20 shows a comparison of the number of salesmen in some of the territories at the time the analysis was made against the number of salesmen which the sales potentials for the territory warranted.

The firm happened to have approximately the correct total number of salesmen, but this study showed that the manpower of the organization was in proper balance in only one-tenth of the territories. In several areas there were more than twice as many men operating as the territory was able to support. In others, the sales

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<sup>9</sup> Richard D. Crisp, "How to Organize for Market Research," American Management Association, Marketing Series No. 63, 1946, p. 88.

TABLE 20

Territory	Present Manpower	Required Manpower
No. 1.....	63	33
No. 2.....	55	13
No. 14.....	10	3
No. 18.....	4	2
No. 36.....	2	5
No. 39.....	9	33

force was clearly undermanned. For the first time the firm was in a position to allocate its sales force on a sound basis.

**Distribution of Advertising.**—A seventh use of quantitative market analysis is as a basis for the distribution of advertising appropriations and the selection of advertising media. Advertisers are keenly aware of the need for some objective measurement of market possibilities so that advertising pressure may be distributed properly. The fact that a large number of quantitative analyses of the national market have been made by publishers and advertising agencies points to the conclusion that this use is important.

Quantitative market analysis is particularly useful in the control of an advertising appropriation when a relatively large amount of local advertising is employed. One manufacturer, for example, set up a total budget for advertising in local media, and then distributed this budget among his sales territories on the basis of the relative potential sales. The budget for each territory was set up in the first column of a control sheet. Each month the expenditures for local advertising in each territory were carefully charged against that territory, and the total for the month inserted in the second column of the control sheet. In a third column, the difference between the two figures was inserted in black pencil for each territory which had spent less than the budget. This was in the nature of an "open to buy" figure. For those territories in which the expenditures exceeded the budget, the differences were inserted in red pencil. These represented overexpenditures which had to be made up in succeeding periods. By accumulating these data from month to month and obtaining cumulative "open to buy" and "deficit" figures, a careful control on advertising expenditures was maintained. It was, of course, necessary to adjust the budgetary figures for seasonal variations and to take local business conditions into account in interpreting the budgetary results.

In the control of national advertising appropriations, the market potential is of primary value in insuring a balanced advertising coverage throughout the country. By the term "balanced coverage" is meant the process of building a media plan which distributes the messages of the advertising campaign in proportion to the market potential of the various market units, such as geographic sections and city-size groups. This balancing operation is most effective if the units employed are based on city-size groups, "key-county" groups, sales territories, or states. The sales potentials for each city-size group or geographic division are expressed as a percentage of the total for the United States. The circulations of various media which might be used in the campaign are then totaled for each of these units, and the percentage of the total circulation of each medium which goes into each of the city-size groups or territories is calculated.

The importance of this "balanced coverage" procedure is indicated in the following example, which compares the coverage of a national magazine and newspaper list built by the traditional rule-of-thumb method with a list which was built by the use of market potentials.

TABLE 21

### BALANCE OF CIRCULATION AND COST OF TWO NATIONAL ADVERTISING LISTS

(All data expressed as percentage of U. S. total)

City-Size Group	Market Potential	Old List	Balanced List
500,000 and over.....	28.8%	21.3%	28.4%
100,000-499,999.....	20.5	21.1	20.2
25,000- 99,999.....	17.8	16.3	16.3
10,000- 24,999.....	10.0	10.9	10.1
2,500- 9,999.....	9.6	13.6	9.9
Under 2,500.....	13.3	16.8	15.1
U. S. Total.....	100.0%	100.0%	100.0%

The most important difference in the two lists is found in cities of 500,000 population and over. The old advertising schedule left the manufacturer particularly vulnerable in the larger cities, which accounted for nearly 29 per cent of the total potential sales for this product. In view of the generally accepted belief that a national manufacturer must be especially careful to maintain his representation in the key markets, this fact was very significant.

**Appraisal of Efficiency.**—The eighth major use of quantitative market analysis is as a basis for checking the efficiency of sales and advertising efforts. There is a general feeling that business firms, in judging the relative success or failure of demand-creation activities, tend to rely too much on their own past experiences, instead of on a scientific knowledge of market possibilities. Effective sales control is predicated on a sound measuring stick for judging performance. Quantitative market analysis provides such a basis of measurement.

Some notion of comparisons of performance with potential is implied in several of the uses discussed above, especially those relating to sales quotas and advertising budgets. Checking the efficiency of sales and advertising effort is thought of as a special use when a company sets this specific objective in planning its quantitative analysis, or uses some special device for making periodic measurements of its demand-creation efficiency. Unless a firm has this special use in mind, it will probably make only hazy estimates of efficiency and employ them in rather opportunistic fashion. On the other hand, if a checking objective and some special form or device for measuring efficiency are set up before the analysis is made, results will constantly receive the attention of executives and will become an integral part of sales planning and control.

One device for making this checking objective is the use of a method which states sales efficiency in terms of "the penetration ratio." This ratio is found by dividing a firm's sales in a given area by the market potential set for that area. The resulting percentage of attainment is then taken as an index of the efficiency of sales and advertising effort. If a washing-machine manufacturer, for example, sets the potential volume for the Albany territory at 1,000 machines per year, and sells 100 machines during the year, his penetration ratio for that market is 10 per cent. If the potential market for Chicago is set at 20,000 machines and his sales in that market are 1,000 units, his penetration ratio is 5 per cent. Thus, while he sells ten times as many machines in Chicago as in Albany, his efficiency in the latter market is twice as great.

### Market Factors

In quantitative market analysis it is necessary to work with many detailed statistical series which in one way or another reflect the power of any given market to purchase a commodity. These statistical series, such as total retail sales, individual income data, age,

education, weather data, and automobile ownership, are known as market factors.

Part of the skill of the quantitative market analyst is knowing the sources of data which might be employed in a given analysis and using ingenuity in experimenting with various factors. Many specific types of factor data are mentioned in this chapter and in Chapter 19. The government is the chief source of these data, and also prepares source books from time to time.<sup>10</sup> In connection with prepared single indexes, considerable market factor data are also available.<sup>11</sup>

### Methods of Quantitative Market Analysis

Many different methods of quantitative market analysis are now used. These methods differ both in fundamental philosophy and in techniques employed. The most important methods are:

1. Direct data method.
2. Corollary data method.
3. Single index method.
4. Arbitrary factors method.
5. Family budget method.
6. Consumption rate method.
7. Multiple correlation method.
8. Statistical hybrid method.

**Direct Data Method.**—The direct data method relies upon general sales statistics for a commodity as the best method of measuring its potential market.

The automobile industry is an outstanding case in point. Because of the licensing system in force, and through the services of specialized reporting agencies, automobile manufacturers are able to obtain monthly figures by counties of new-car sales (registration) for each make and model. There is some lag in the reporting of these data, all figures not being available until about the middle of the second month following. Nevertheless, this accurate information is essential in any quantitative analysis in the automobile field, and precludes the necessity of other methods, except in very special cases.

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<sup>10</sup> See *State, Regional, and Local Market Indicators*, U. S. Department of Commerce, 1946. The Office of Business Economics has prepared an analysis of department store sales for various regions and cities. For a number of new series, see *Current Market Data for Local Market Analysis*, U. S. Department of Commerce, January, 1947.

<sup>11</sup> See, for example, "Survey of Buying Power," *Sales Management*, May 10, 1948.

TABLE 22  
APPLICATION OF THE DIRECT DATA METHOD

(1)	(2)	(3)	(4)
Territory	Total Gasoline Consumption (000 omitted)	Relative Potential (% of U. S. total)	Market Potential * (000 omitted)
Alabama . . . . .	140,513	0.91	154,700
Arizona . . . . .	66,396	.43	73,100
Arkansas . . . . .	117,352	.76	129,200
(etc.)	(etc.)	(etc.)	(etc.)
U. S. Total . . . . .	15,440,919	100.00	17,000,000

Explanation of columns:

1. Territorial units: states, counties, sales territories, etc.
2. Latest available data on sales, covering a period of one to four years.
3. Column 2 converted to percentages.
4. Column 3 times total anticipated sales (17,000,000) during period for which the potentials are being set.

\* The reader will note the potential varies from the sales data only by the difference between the total sales and the total potential.

There are several types of direct sales data which are employed in quantitative analysis. In the first type, the sales data appear as a by-product of some licensing, inspection, or tax system. Data employed by automobile, gasoline, and insurance companies are of this type. A second type is that in which the data are gathered by trade associations for the benefit of members, or through direct exchange of data by members of the industry. Examples are the data provided by the Washing Machine Manufacturers' Association, the Electric Refrigeration Bureau, and the Radio Manufacturers' Association. A third type is the data provided by service organizations which maintain retail store audits or consumer panels which report the flow of merchandise into various sections of the market. The A. C. Nielsen data, for example, are sufficiently adequate and reliable for sales-potential purposes. Other methods of quantitative analysis, however, are necessary to adapt the facts to marketing units finer than those reported.

The primary advantage of the direct data method is that it works with actual facts regarding the amount of the commodity which the market has consumed, and it therefore gives the analyst a feeling of accuracy which no other method provides. Another advantage is that the data on the market are usually provided rather speedily, so that the lapse of time between the taking of the data and their use is much shorter than in cases where general market factors are



employed. The method is also easy to use, since the sales data reported represent the sales potential.

There are, however, several limitations which keep this method from being universally applied, and which caution against its hasty acceptance. First, its use is confined to relatively few commodities. Second, many important data are not available. Information on most commodities is available only by states or regions; this necessitates the use of some other method of quantitative analysis before data can be fitted to manufacturers' sales territories or used for smaller geographic units. A third weakness is the frequent inaccuracy of many of the facts. The automobile data are generally accepted as the most accurate series, as they are based upon rigid licensing laws. Statistics on sales gathered by trade associations are sometimes open to question. A fourth limitation is that the method is restricted to past performance. Market conditions may change between the time the data are gathered and the results of a quantitative analysis are put into use. Finally, and most important, the method gives no weight to the potential purchasing power of a community beyond that which had been shown in past sales. These past sales may have been influenced by special temporary situations, such as the weaknesses of demand-creation methods.

**Corollary Data Method.**—In this method it is assumed that the sales of two commodities parallel each other so closely that the direct data for the sales or the consumption of one give the market potential for the other. For example, we have no geographically distributed data on the sales of automobile tires, yet the possibility of the use of this product in the replacement market is determined by the use of automobiles. Hence, where we have such a direct casual relationship between the sales or use of one product (for which we have accurate data) and the sales of the product for which the market is being measured (for which we have no direct sales or consumption data) we assume that the first data measure the market possibilities of the latter.

In some other fields, the relationship is not so clear. The use of horses points to the use of many products—feeds, fly nets, ointment, saddles, riding clothes, etc. But the relationship of some of these things is very direct; in the case of others it is very indirect, representing only a general tendency. Provided that the factors of the specific case warrant the assumption of a close relationship between two sets of sales data, the corollary data method automatically carries most of the advantages and disadvantages inherent in the use of the direct data method discussed above.

The chief limitation is that the relationship between the sales of the two commodities involved may not be sufficiently direct to give accurate results. In view of the ease with which the method may be applied, there is a natural tendency to use it. In most cases, however, some sort of adjustment is necessary, and often the relationship is so indirect that the use of one series of sales data in setting sales potentials for another product will yield false results.

**Single Index Method.**—The single index method is one of the easiest methods to use. This is indicated by the following example which shows the use of a single index to establish market potentials for gasoline.

TABLE 23  
APPLICATION OF THE SINGLE INDEX METHOD  
(International Magazine Co. Index)

(1)	(2)	(3)
Territory	I.M.C. Index	Market Potential for Gasoline
Alabama.....	1.19	202,300
Arizona.....	.28	47,600
Arkansas.....	.88	149,600
(etc.)	(etc.)	(etc.)
Total.....	100.00	17,000,000

Explanation of columns:

1. Territorial units: states, counties, sales territories, etc.
2. International Magazine Company Index.
3. Column 2 times total anticipated sales (17,000,000) during period for which the potentials are being set. Note that in this example the index is applied directly against the anticipated sales for the firm, instead of against the anticipated sales for the entire industry.

**THE RETAIL SALES INDEX.**—While the Census of Distribution and Census of Business report actual sales, neither can be used effectively as a basis for the application of the direct data method or the corollary data method. The data for total retail sales by geographic divisions must be considered only as a general sales index, since they are composed of a heterogeneous assortment of commodities.

The chief advantage of the use of total retail sales as a basis for the application of the single index method is that the data are based on actual purchases of commodities, rather than "static" population or wealth factors.

Several objections have been raised to the use of census data on total retail sales as a single index. In the first place, it has been

contended that they do not measure the total power of people to buy, because people do not spend all of their incomes in retail stores. Approximately 60 per cent of the total national income is spent in retail establishments. The criticism that retail sales on a county and city basis understate the total buying power of counties and towns adjacent to large cities is a very real one.

Another objection is that people in some parts of the country spend a relatively larger share of their total incomes in retail stores than do people in other sections. While this is probably true, the variation may not be sufficient to represent a serious limitation.

**SALES MANAGEMENT INDEX.**—Probably the most widely used single index at the present time is that prepared annually by *Sales Management*.<sup>12</sup> Each year this magazine publishes an exhaustive "Survey of Buying Power," in which current estimates of retail sales, effective income, and population are presented for all counties and cities with retail sales of \$4 million or more.

The Department of Commerce prepares estimates of total retail sales for the United States. These are apportioned by *Sales Management* to counties and cities largely on the basis of sales tax data, Department of Commerce surveys of sales of independent retailers, department store sales, bank debits, and other factors.

The Department of Commerce also prepares estimates of effective buying income, based on wages, salaries, dividends, interest, government income, and miscellaneous items of income. These estimates are available on both a national and state basis. *Sales Management* spreads these estimates to counties and cities, but does not reveal its method, just as Sears Roebuck does not reveal its sales data to *Sales Management*.

Population estimates of the nation and the states are furnished by the Bureau of the Census and are apportioned to counties and cities largely on the basis of sample surveys of forty metropolitan areas by the bureau, state surveys of population, and estimates of local chambers of commerce.

The Sales Management Index is presented in the form of "% of U.S.A. Potential." This is a weighted average of three of their estimated factors: % U.S. Effective Buying Income  $\times 5$ ; % of U.S. Retail Sales  $\times 3$ ; and % of U.S. Population  $\times 2$ . The magazine presents charts and tables which summarize the findings of the survey and lists suggested procedures for applying the index.

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<sup>12</sup> For a summary of changes and description of method, see *Sales Management*, May 10, 1948, pp. 19-40.

A special feature of the Sales Management Index is the publication each month of revised estimates of retail sales for "high spot" cities. For over 200 market centers the magazine compares current figures with 1939 and with the previous year, and shows relative position on a national basis.<sup>13</sup>

A number of other single indexes<sup>14</sup> have been published, including the following:

Batten, Barton, Durstine, and Osborn Index—based on population, number of retail outlets, and income tax returns.

Curtis Index—based on circulation of Curtis magazines.

Crowell Index—based on an adjustment of retail sales data to estimate consumption by each county.

International Magazine Index—based on an average of 21 factors.

McCann Index—based on number of income tax returns, domestic lighting customers, bank deposits, and combined circulation of four magazines.

Regardless of the manner in which these indexes are built, they have in common the assumption that a general measurement of purchasing power may be used either as the sole basis for quantitative analysis or as the basic series to be modified with special factors. This latter application is really a form of the arbitrary factors method, as will be shown in the discussion of that procedure.

The chief advantage of the single index method is the simplicity of its use. The indexes are pre-prepared and readily available. They are usually stated in terms of the percentage of the total potential sales of a commodity which each geographic section of the market should buy. The analyst can then immediately prepare sales quotas or distribute advertising budgets. This method is also presumably superior to the direct data method in that it makes allowances for general purchasing power.

The most fundamental weakness of the single index method lies in its failure to account for differences in the markets for individual commodities. This weakness is now frankly admitted by the most aggressive sponsors of this method. Weld, who developed the McCann Index, has pointed out the serious dangers which arise when analysts and businessmen adopt such indexes as a measure of the market for individual commodities: "One of the most glaring

<sup>13</sup> See *Sales Management*, June 1, 1948, p. 60 and pp. 130-134.

<sup>14</sup> For a further exposition of index factors and the single index methods, see R. Parker Eastwood, *Sales Control by Quantitative Methods*, New York, Columbia University Press, 1940, pp. 240-261, and Lyndon O. Brown, *Market Research and Analysis*, New York, The Ronald Press Co., 1937, pp. 427-437.

fallacies in market evaluation work during recent years has been due to the assumption that one single index may be used to measure the market for any and all commodities.<sup>15 16</sup>

Even if analysts and businessmen can be educated away from the early propaganda which advanced the merits of the single index method, there still remains the problem of how to modify it. If the

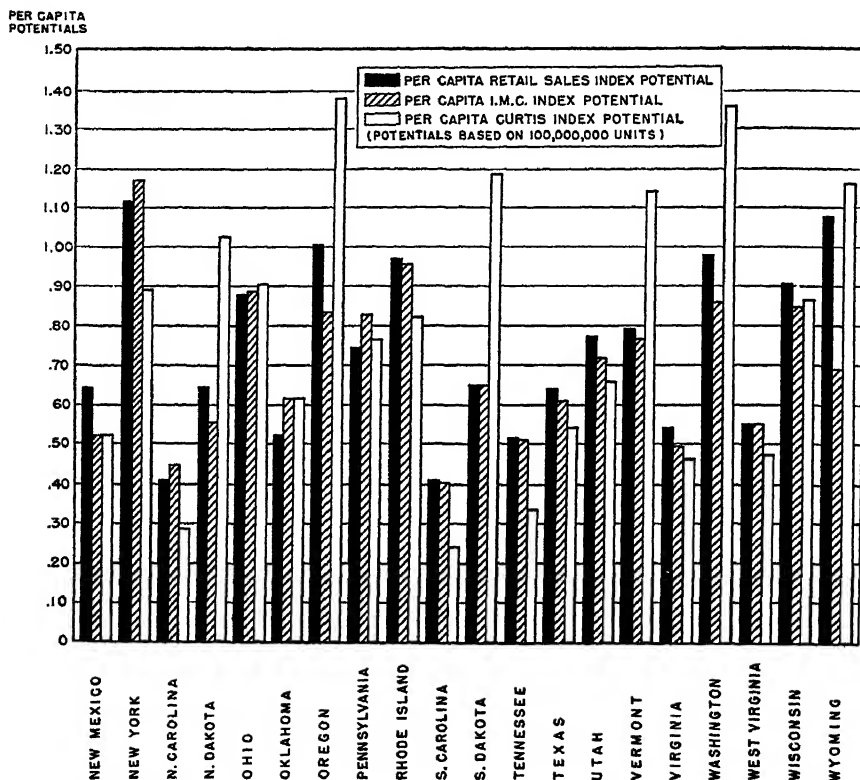


Figure 11. A Comparison of Three Popular Indexes (Total Retail Sales, International Magazine Company, and Curtis)

analyst merely guesses that certain combinations of factors should be used, he is no longer using the single index method, but the arbitrary factors method. In this use, the single index ceases to exist as a method of market evaluation, but is simply a predigested series of data which are taken into a study as a group of factors (depending on which index is used), rather than individually.

<sup>15</sup> C. E. Haring, "The B.B.D.O. Buying Power Index," *Advertising and Selling*, November 9, 1933, pp. 16-17.

Some labor may be saved in using an index which has already averaged the factors, but such use of the prepared combination is not a special method of quantitative analysis.

A second criticism of the single index method is that most forms are based on the assumption that the important element in quantitative analysis is general buying power. Such an assumption fails to recognize other elements which may be more important than buying power itself, chiefly buying habits. With given buying power, people in some markets buy more freely than those in others. Furthermore, markets vary greatly in their preferences for individual kinds of products. The quantity of ham or chicken consumed in two markets is primarily a matter of habits and desires, rather than of purchasing power.

**Arbitrary Factors Method.**—The arbitrary factors method is one of the oldest techniques used in quantitative market analysis. As the first step, those who are conducting the analysis should, on the basis of their experience and judgment, select a group of market factors. Sometimes these factors are compared with the past sales of the firm for which the analysis is being made, or with total retail sales. The distinctive characteristic of this method, indicated by the term "arbitrary," is that personal judgment, rather than any scientific technique, is used in the selection of the factors and other steps.

After the factors to be used in the analysis have been selected, they are next weighted. If in the judgment of the analyst they are of about equal importance, no weights are assigned.<sup>16</sup> If some of the factors appear to be more important than others, they are given special weights. Thus, in combining three factors, factor A might be weighted three times, factor B twice, and factor C once. The weights assigned are also based on the estimates of the analyst.

The factors are set up in terms of the percentage of the total units of each one which are assigned to each market. These percentages are then weighted, an average is struck, and the resulting figure is used as the market index. (See Table 24.)

A combination of the arbitrary factors and the single index methods is employed by the Sterling Tool Products Company. Following the arbitrary factors method, the company uses a combination of past sales records, vehicle registrations, shipments, and a general knowledge of the most lucrative markets for Sterling products throughout the United States.<sup>17</sup> These series, on the basis

<sup>16</sup> Statistically the term "no weights" means weights of one.

<sup>17</sup> See J. A. Proven, "How to Size Up the Sales Potential for Industrial Products," *Sales Management*, August 1, 1948, pp. 78-83.

TABLE 24

## APPLICATION OF THE ARBITRARY FACTORS METHOD

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Territory	Population		Dwellings		Occupations		Sum of Factors	Market Index	Market Potential
	% U.S. Total	Weighted % ( $\times 3$ )	% U.S. Total	Weighted % ( $\times 1$ )	% U.S. Total	Weighted % ( $\times 2$ )			
Alabama. . . . .	2.16	6.48	2.20	2.20	.99	1.98	10.66	1.745	8,725
Arizona. . . . .	.36	1.38	.39	.39	.34	.68	2.45	.409	2,045
Arkansas. . . . .	1.51	4.53	1.66	1.66	.52	1.04	7.23	1.205	6,025
(etc.)									
Total U.S. . . . .	100.00	300.00	100.00	100.00	100.00	200.00	600.00	100.000	500,000

## Procedure :

- List territories or other units in column 1.
- List percentages of total United States or area being studied for each factor used in columns 2, 4, and 6.
- Multiply each factor by its weight, placing result in appropriated columns.
- Add items horizontally in columns 3, 5, and 7, placing totals in column 8.
- Divide column 8 by the sum of the weights, placing result in column 9. This is your market index, that is, the percentage of total sales possibilities assigned to each territory.
- Multiply the products in column 9 by the total anticipated sales volume for the entire market, pointing off two places (since the index is expressed as whole percentages). This is your market potential, in terms of dollars, cases, or other units used in the total.

of arbitrary weights, are combined into what is known as the Sterling Factor, which, in turn, is combined with a single index for industrial supplies furnished by the American Supply and Machinery Manufacturers' Association.

The chief advantage of the arbitrary factors method is that it takes into account the conditions peculiar to each individual product. Each analysis is constructed specifically for the commodity for which the market is being measured. The method is also easy and inexpensive to apply. It is simple to understand; hence it has had wide acceptance by businessmen. The basis of selecting and weighting factors is usually agreed to by the persons who are to use the analysis, thus furthering its acceptance.

The fundamental weakness of this method lies in its arbitrary nature. What is called judgment is largely guesswork. There is no scientific basis for the selection and weighting of the factors; all this is left to human intuition. The dangers of this method are readily seen when one has studied quantitative analysis thoroughly enough to see how very different the true relationship between individual factors and commodities may be from the apparent relationships which persons often assume to exist.

An analysis of the relationship between income factors and the market for specific commodities will illustrate this weakness. Some measure of income or buying powers is nearly always employed in the arbitrary factors method.<sup>18</sup> Studies of the consumption of lard, however, show that the market runs directly opposite to incomes. The lower the income in a section, the greater the potential market for lard; in the higher income brackets, very little lard is consumed. In such an apparent case, the analyst who is applying the arbitrary factors method should not be misled. However, there are many instances in which all logical reasoning might appear to point to the use of an income factor in an arbitrary factors analysis, yet this is not necessarily true. A study of the market for washing machines is a case in point.<sup>19</sup> Here is a high-priced specialty. Yet an analysis of washing-machine sales showed that once one gets beyond the range of extra-marginal income groups—those who do not have money to buy the product even on an easy-term basis—the extent to which washing machines are used runs quite directly opposite to the amount of income. This may be demonstrated statistically. It also checks with experience and common sense when we realize that people with higher incomes, living in cities, tend to employ maids and send their laundry out of their homes.

Study of many of the factors commonly used in the arbitrary factors method will show, upon close analysis, peculiarities which are often overlooked. The classification "native white families" is frequently used. Many persons assume that native whites are literate, have high standards of living, and in general represent a high-grade market. Such assumptions completely overlook the vast numbers of "poor whites" in certain states, and the fact that foreign elements in the population are the very best market for many commodities.

**Family Budget Method.**—Many of the methods discussed so far have been used for want of a more direct approach to the problem of quantitative market analysis. The family budget method has been suggested as one means of making these analyses more directly. This method involves the gathering of data on expenditures for commodities from a sufficient number of families to serve as an adequate sample for the various territories being analyzed. On the basis of this sample, the total potential market is directly estimated.

The advantages of this method are similar to those mentioned for the direct data method. However, there are certain limitations

<sup>18</sup> Since single indexes almost invariably include some measure of purchasing power, the same criticism applies to them.

<sup>19</sup> The illustrations are from multiple correlation studies made by the writer.



which militate against its use in market analysis. In the first place, the data need to be much more specific than most budget studies. Instead of gathering information on expenditures for food and clothing, the market analyst requires data on beef, coffee, overcoats, men's shoes, and collar buttons. Even if it were possible to obtain the cooperation of consumers, this need for more specific data magnifies the errors in reporting. Some of these difficulties have been encountered by ambitious college publications which have sought to gather data on expenditures of students for individual commodities.

The continuous consumer panel has now made the use of family budget data for quantitative analysis a practical possibility. Members of a purchasing panel keep diaries showing their actual purchases on a weekly or monthly basis. This procedure permits the development of data for specific products, reduces the errors which arise from attempting to remember purchases for too long a period of time, and eliminates the generalization which is necessary in the typical family budget approach.

**Consumption Rate Method.**—Like the family budget method, the consumption rate method of quantitative analysis seeks to obtain direct information on the consumption of commodities. The difference between the two methods is that the former obtains records on a wide variety of expenditures over a relatively long period of time. In the consumption rate method, the study is limited to one, or a very few commodities, and the data are gathered in a relatively short period of time, specifically for a quantitative analysis.

The consumption rate method can be applied in two ways. The first is based on survey inquiries among groups of consumers who report their annual or monthly consumption of commodities. This approach has been used frequently by advertising media. There are many obvious reasons why consumers cannot accurately estimate their rate of consumption of a given commodity.<sup>20</sup>

The second approach is based on an effort to use more scientific controls in the gathering of the data. One plan calls for placing samples of the commodity in homes, checking on how long the samples last, and calculating standard consumption rates from these data. The objection to this is that the situation with a free sample is abnormal, and the rates of consumption will be biased. Another plan uses the survey method, but shortens the time period and removes generalization from the consumer data. Instead of asking

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<sup>20</sup> See Donald R. G. Cowan, *Rates of Consumption*, Social Science Research Council, Bull. 7, 1932, p. 47.

the consumer to estimate his or her rate of consumption, data are obtained on (1) date consumer began using the last purchase, (2) amount of last purchase, and (3) amount remaining in home.

To indicate the results obtained by the latter variation of the method, an example may be cited. A manufacturer of a kitchen specialty has been making quantitative studies, using the consumption rate method. Several different organizations had conducted studies, all using various modifications of the approach based on asking the annual, semiannual, or monthly consumption. Checks of the results of such studies against sales data indicated that they widely overestimated the market. A study which introduced more scientific controls, obtaining specific data for the last purchase, came within less than 10 per cent of actual sales.

One of the prime advantages of the consumption rate method is that it breaks down the total potential market in a very significant manner. A given potential volume of, say, 5,000 cases of a certain product, may be based upon (1) a relatively small proportion of the population which consumes large amounts per capita, or (2) a relatively large proportion of the population which consumes small amounts per capita. This distinction is of fundamental importance in advertising and sales policy.

Since the original data are in the form of individual case histories, they permit various statistical classifications and treatment which will bring out significant facts as to the nature, as well as the size, of the potential market. For example, the variation in rates of consumption between racial, occupational, and income groups may be analyzed. The other advantages are similar to those for the family budget method.

The chief limitation of this method is the lack of adequate scientific bases on which to determine true rates of consumption. A second weakness is that such studies usually cover only relatively short periods of time, thus making no allowance for important seasonal variations. A third limitation is cost. To obtain a sufficiently large number of cases which are accurately measured is laborious and costly. This high cost per case may lead to a tendency to work with incomplete samples.

**Multiple Correlation Method.**—Market analysts have long sought a procedure which will eliminate the guesswork involved in most of the methods discussed above. Statistical methods of correlation provide a mathematical means of measuring variation in buying power. The theory of correlation analysis is thoroughly

discussed in books on statistics.<sup>21</sup> The method has long been used in the study of relationships between variables in other fields, notably medical biometry, agriculture, and engineering. Its use in quantitative market analysis work has been a much more recent development.

Stated in its simplest terms, the theory on which multiple correlation is used in quantitative market analysis follows. There are certain known facts regarding sales or consumption of the product studied. These facts may be in the form of an individual company's past sales, the sales of groups of companies or the entire industry, or consumption rates in various sections of the country which have been determined by store audits or field surveys. If any of these are set up in a series for the various states in the nation or for sales territories, they provide measurement of a known variable—sales. It is presumed that the market conditions which make for easy sales have been operating in past sales or consumption data. True, this information reflects many things other than sales possibilities, such as competitive conditions and selling and advertising effort. But the chief general force at work is market potential and, since the correlation process measures the general variance, individual exceptions do not disturb it significantly.

The market conditions which cause sales to be high or low may be described by statistical data, such as total retail sales, number of income tax returns, and number of automobile registrations. For convenience, these statistical facts are called market factors. These market factors are used, in one way or another, in all methods of quantitative analysis described previously, except the direct data method.

In the multiple correlation method, the analyst uses his sales (or consumption) data as the control series, or dependent variable. He then measures the general variance in market potential by correlating it with different market factors, his independent variables. He selects any market factors which he desires, with the result that he knows whether a suggested factor influences the sales of the commodity. If a simple correlation is made between sales and, say, income payments to individuals, and a direct relationship is found, the conclusion is that there is a tendency for sales possibilities to be highest (if the relationship is positive) where income payments to individuals are highest, and vice versa. If, on the other hand, no correlation is found between these two variables, the presumptior

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<sup>21</sup> See Mordecai Ezekiel, *Methods of Correlation Analysis*, 2nd ed., New York, John Wiley & Sons, Inc., 1941, for the most complete treatment.

is that this factor is not a satisfactory means of measuring the sales possibilities.

By the statistical manipulations in the multiple correlation process, the selection or rejection of factors and their weighting are accomplished scientifically and objectively. The use of the coefficient of multiple determination gives an indication of the relative accuracy of the results. The use of coefficients of part or partial correlation makes it possible to reject factors which are of no particular value in the analysis. Furthermore, the relative strength of each factor in influencing sales is determined, so that the group of factors used to set potentials is weighted with mathematical precision. By a somewhat complicated process, the analyst arrives at an estimating equation, by which the market potentials for each geographic unit are established.

The primary advantage of this method lies in its objective, scientific nature. It eliminates elements of judgment and substitutes mathematical and statistical methods wherever possible. Another important advantage is that it reflects buying habits as well as purchasing power and other elements which influence actual sales, by using sales data as the dependent variable, or control series.

One of the first limitations on the multiple correlation method is that it is complicated; hence business executives may refuse to have confidence in it because they cannot understand its technique. Since the method is complicated, the persons responsible for such an analysis must be thoroughly familiar with the various phases. Like any statistical device, multiple correlation is merely a tool. The effective use of such a tool presupposes that it will be placed in skilled hands. The dangers of spurious correlation must be recognized and avoided. It must not be assumed that high coefficients prove causal relationships.

The method also presupposes that accurate sales data are available by states or by geographic divisions sufficiently numerous to lessen the danger of chance correlation. Accurate sales data for an entire industry should be employed, if available. In practice, multiple correlations have more frequently been based on the experience of a few companies or only one firm.<sup>22</sup> The questions of trading areas and channels of distribution become problems in the development of the control series. If sales are made directly to retailers this is not an important limitation. In lines in which wholesaling

<sup>22</sup> The inexperienced observer is likely to come to the conclusion that the ideal sales series is one prepared for the entire industry, and that to use sales data for only one manufacturer or a small group is wrong. As a matter of fact, the latter has the advantage of giving some weight to competitive conditions, and may therefore be superior.

establishments are employed, some adjustment of the sales data must be made to account for wholesale territories which cross state boundaries.

In applying the Multiple Correlation method, there are several points at which sound judgment must be employed. The general danger of chance correlation has already been mentioned. The analyst must also bear in mind that he is making the correlation for the purpose of setting sales potentials, and should, therefore, be guided at all times by relationships which are logical as well as supported by the correlation.<sup>23</sup>

**Statistical Hybrid Method.**—The statistical hybrid method has been developed, and so named, by Joseph White and Associates to solve problems in market potentials for which the more standardized methods previously discussed are not adapted.<sup>24</sup> In the case of the market for soft goods, such as women's wearing apparel, there are no adequate direct data available; the use of multiple correlation is limited by the decentralized character of the industry; and the researcher must avoid the limitations of the single index method as research proves that because of variations in local market conditions such series are either of little value or a positive danger.

In the statistical hybrid method a large number of market factors and statistical series are examined to develop evidences of their relationship to sales expectancy. By careful scrutiny and analysis, the guesswork element of the arbitrary factors method is progressively reduced. The method obviously calls for exhaustive statistical research in connection with a specific potential problem, including some application of correlation techniques. The essential steps in this procedure, reduced to the simplest terms, are as follows:

1. Detailed analysis of various statistical series, including close examination of limited, contrasting markets.
2. Determination of number of prospective buyers by income groups.
3. Determination of average price paid for the product by each income group.
4. Determination of average quantity purchased by each income group.

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<sup>23</sup> The most complete statements and exposition of the multiple correlation method will be found in Donald R. G. Cowan, *Sales Analysis from the Management Standpoint*, Chapters 2, 3, and 4. For a specific example see I. A. Sisenwein, "Multiple Correlation Application," *Mida's Criterion*, February, 1939, pp. 16-35.

<sup>24</sup> For an exposition of the method and a case example, see Joseph H. White, "Measuring Local Markets," *Journal of Marketing*, October, 1947, pp. 220-233.

5. Development of relative potential for various market areas on the basis of income data.

One of the chief advantages of this method is its reliance on basic income data, which are now available in usable form and can be compared for different time periods. The application of the statistical hybrid method is most effective as a more or less continuous operation in connection with the determination of potentials for any given product.

A somewhat related method, developed by Serge Morosoff, establishes a number of multiplying factors for various product types on the basis of analysis of consumer expenditure data furnished by the government.<sup>25</sup> Morosoff supplies income distribution data for various marketing units on a current basis, against which the multiplier for a given product class may be applied to readily produce potential figures. The report shows families, where they live, and how much they can spend by trading areas.

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<sup>25</sup> See Serge Morosoff, *Consumer Purchasing Potentials in the United States*, Chicago, Dartnell, 1948.

## CHAPTER 10

### OPINION AND PUBLIC RELATIONS RESEARCH

Opinion and public relations research measure the attitudes or beliefs of groups of people. These studies vary greatly in scope. Sometimes broad national surveys of the general public are made, but often studies are limited to regions or individual localities. The scope of opinion surveys may be further restricted by confining them to special groups, that is, to a particular class of customers, the employees of an establishment, or a particular age classification.

Opinion research surveys also vary greatly in the subject matter covered by different studies. Sometimes they deal with broad public issues, such as problems in international relations or socialized medicine. The opinion technique is also employed to measure attitudes toward specific legislation, such as the Taft-Hartley Act or proposals for legislative restrictions on chain-store operations. Many studies measure attitudes toward whole industries, for example, railroads or food manufacturing. One of the most important applications to the marketing researcher is measuring opinions of individual business organizations, such as attitudes toward the Ford Motor Company or toward various units of the Standard Oil Company. Opinion studies may deal with more detailed subjects, such as prices, products, and various business policies of the firm being studied. Finally, opinion research is employed to measure attitudes toward public figures, such as candidates for political offices or leading industrialists.

Nearly all large corporations employ surveys of what the public thinks and wants as a basis for fundamental decisions on operating policies. From the point of view of the business organization, opinion research is used chiefly in connection with public relations, employee relations, and marketing operations.

**Public Relations Uses of Opinion Research.**—The foundation of all modern public relations programs is opinion research.<sup>1</sup> There

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<sup>1</sup> See Verne Burnett, *You and Your Public*, New York, Harper & Bros., 1947, pp. 34–53, and Rex F. Harlow and Marvin M. Black, *Practical Public Relations*, New York, Harper & Bros., 1947, pp. 839–864.

was a time when the practice of public relations was based entirely on the personal skill and judgment of experts in this field. Today the public relations practitioner works on the basis of careful opinion polls. The facts obtained from such surveys are first used as a guide for developing a public relations program. After the various public relations activities have been planned on this basis and put into operation, further opinion surveys are made to determine the degree of success or failure of the program as it operates.

In planning opinion surveys for public relations purposes, it is important to define carefully the various "publics" which must be reached by publicity and other devices designed to improve their attitudes toward the corporation. The following segments of the general population are usually the most important:

1. The consuming public for the product or products under consideration.
2. Employees of the corporation.
3. Stockholders.
4. Dealers.
5. Governmental agencies.
6. Opinion-molding groups, such as educators.
7. Local communities, especially those in which branches of the business are located.

Since the most critical public relations problems lie largely among one or more of these specialized groups, it is often necessary to devise special researches, with questions directed at the interests of each group.

One of the most valuable uses of opinion research as a basis for a public relations program is the local community survey. These surveys pin-point local conditions, and often put a finger on unsuspected sore spots. Within a community various groups, such as former employees and community leaders, should be given special attention. There are certain groups of people who are particularly influential in molding opinion in any community. In addition to the obvious groups, such as officers of local organizations and political officeholders, such important segments as policemen, barbers, and filling-station proprietors should not be overlooked.

Examples of questions employed in a community survey are the following:

1. What companies located here do you consider are doing the most for the community?



2. What company would you say is the best place for a person to work? Why?
3. Are there any companies here where you would advise anyone *not* to work? Why?
4. How do you rate these companies on working conditions? On cooperation with unions?

**Opinion Research for Employee Relations.**—Surveys of workers' opinions now form the basis for personnel policies in progressive establishments. Knowing and acting upon the attitudes of employees toward the company usually result in more enlightened policies. Training programs become more realistic. Better working conditions, which lead to greater efficiency and eliminate major causes of discontent, are another result. Finally, the pride and confidence of the employee in his company are increased.

An example of this form of opinion research is shown in the following questions answered in a survey particularly directed at foremen:<sup>2</sup>

1. Is the company foreman, in his own mind, a part of management?
2. Does he feel he would benefit by belonging to a union?
3. What type of training does he feel would be of particular benefit to him?
4. Is he satisfied with his chances of advancement?
5. What is his reaction to the way the company is run?

**Opinion Research for Marketing Operations.**—Business management is coming more and more to realize that the general attitude and opinion of the public toward an industry, an individual manufacturer, or distributing organization is a basic social force which must be known accurately and taken into account as a primary element in determining marketing policies. Like the undertone of a Sibelius symphony, these fundamental psychological beliefs and attitudes form the foundation on which all the superstructure rests. In the long run, favorable and unfavorable public beliefs may play a much more significant role in determining marketing success or failure than the minor surface elements which are so much more apparent.

Sometimes a broad sampling of the public is most productive, but frequently special segments of the market are studied. Examples

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<sup>2</sup> James W. Irwin, "Sampling Workers' Opinions," *Dun's Review*, November, 1945, pp. 32-34.

of the more important special groups are users of a particular type of product, nonusers of a particular brand, large buyers, wholesale and retail distributors, stockholders, salesmen and other employees, and selected individuals who lead and create opinion. While some studies are limited to selected groups, comparisons between groups are often most revealing, and special segments of the total population polled should always be broken down for analysis, comparison, and interpretation.

One specific application of opinion research frequently used by business is obtaining, usually on a comparative basis, the general rating of a corporation in the public's mind. More specific attitudes, such as those toward the firm's reputation for quality of product, manufacturing skill, research ability, and policies, are likely to be much more revealing. Attitudes toward various institutions in the distributive trade and different types of outlets for merchandise are often very helpful in planning marketing strategy. Opinion as to various types of products is sometimes measured as a means of determining trends in acceptance by the public. Attitudes toward prices, advertising and promotional devices, salesmen, and service organizations are further examples of direct applications of opinion research to marketing policy. However, since the attitudes and opinions which bear directly on marketing policies and practices are so intertwined with those affecting other aspects of the business enterprise, the broader uses of opinion research should always be considered in planning a study designed primarily for marketing operations.

**Use by Smaller Firms.**—While opinion research in business is used most extensively by large corporations, it should not be concluded that its use is limited to big business. The smaller enterprise also employs this type of research, although on a smaller scale. A local retailing establishment, for example, is quite sensitive to the attitude of the public in the territory it serves. A relatively small manufacturing concern can be just as much in error in its employee relations program as a large one if it does not know the attitudes of its employees. It is important that attitudes toward products and their distribution be known in connection with marketing policy, without respect to the amount of sales.

**Nonbusiness Uses.**—Interest in opinion polling is, of course, not limited to business. The government employs it extensively as a basis for public policy. The Second World War stimulated this type of research greatly, both as a basis for propaganda abroad and

as a means of sampling the civilian population with regard to their reaction to various wartime measures of control.<sup>3</sup> As a result of this impetus, opinion research will undoubtedly continue to grow as a tool of government. The general public is vitally concerned, for public opinion polls have become an important tool in the workings of democracy.

Publications have found that opinion research is an important item in editorial content. The *Fortune* Survey and the Gallup Poll, which is syndicated in a large number of newspapers, are examples.

Opinion research has become international in significance. As a regular feature the *Public Opinion Quarterly* publishes brief abstracts from various polls, many of them taken in foreign countries. The bulk of these polls deal with public policy, but the results are frequently valuable to businessmen. Time, Inc., has inaugurated an international poll which covers nine foreign countries in addition to the United States.

Universities and foundations conduct a considerable amount of opinion research. The Office of Public Opinion Research at Princeton University, and the National Opinion Research Center do basic research on opinion polling, largely exercising the functions of criticism and review. A survey center has recently been established at the University of Michigan. A group of approximately fifteen public opinion experts train students in survey techniques and conduct studies under research grants. These sources are important to business organizations for ideas, techniques, results of studies which they conduct, and also as facilities.

**Summary of Uses.**—The general applications of opinion research have been admirably summarized by Wallace H. Wulfeck as follows:<sup>4</sup>

1. Through periodic nation-wide surveys to determine and plot the changes in public attitudes toward specific corporations.
2. For occasional and trend studies to measure public confidence in business, labor unions, government.
3. For occasional investigations of public opinion toward a specific industry, a philosophy of government, i.e., the New Deal, a particular labor dispute or a special personality, i.e., John L. Lewis or Sewell L. Avery.
4. For investigating stockholders' attitudes toward the management and policies of the corporations in which they share ownership.

<sup>3</sup> For an interesting example of the extent to which the government has gone into opinion research, see Andie L. Knutson, "Japanese Opinion Surveys: The Special Need and the Special Difficulties," *Public Opinion Quarterly*, Fall, 1945, pp. 313-319.

<sup>4</sup> Article in Albert B. Blankenship (ed.), *How to Conduct Consumer and Opinion Research*, New York, Harper & Bros., 1946, pp. 88-89.

5. For finding out what the worker thinks about his job, his company, his foreman and his labor union.

6. For measuring job security attitudes among workers during the war and projected to the postwar period.

7. In determining public attitudes toward and confidence in advertising.

8. For having employees select from among several alternatives the retirement benefit plan they prefer without their knowledge that the survey is being made among the employees of their company.

9. For estimating the competitive position of a given manufacturer against others independently of the product brands made for sale.

10. For predetermining the attitudes of distributors toward the sale of a product which has never been sold, on the basis of the manufacturer's reputation.

11. Various war agencies of the government have made extensive use of questionnaire studies to estimate public reaction to projected programs and to measure public response to programs already in operation.

### Techniques of Opinion Research

The techniques for opinion and public relations research are essentially the same as those for consumer surveys. However, the wide application of opinion studies has led to the development of special refinements of techniques for opinion measurement designed to meet a number of special problems in this field.

**Questionnaire Construction.**—Results of opinion research are particularly sensitive to the exact phrasing employed in the statement of questions. As a result a great deal of testing work is involved in developing the questionnaire. The following questions, for example, produce entirely different results:

Is the service at Blank's reasonably good?

Is the service at Blank's all you could expect?

The first phrasing of the question yielded a 60 per cent favorable reply, whereas the second phrasing produced only 20 per cent favorable responses.<sup>5</sup>

In the following example,<sup>6</sup> the phrasing in the second form did not affect the proportion of responses of "low," but did significantly decrease the proportion of "don't know" answers, always a problem in opinion polling:

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<sup>5</sup> Albert B. Blankenship, *Consumer and Opinion Research*, New York, Harper & Bros., 1943, pp. 62-63.

<sup>6</sup> *Ibid.*, p. 87.

Is the price of meat high, low, or about right?

In comparison with the price of other foods, is the price of meat high, low, or about right?

Cantril has classified opinion research questions into three types:<sup>7</sup>

1. Free, or open question.
2. Yes and no, or dichotomous question.
3. Multiple choice, or cafeteria question.

In the open question the interviewer merely asks for an opinion regarding a particular subject, allowing the respondent to use his own words to express that opinion. This type of question has its chief value in the testing or exploratory phases of a study. Aspects of the problem which are not clearly crystallized in the researcher's mind can be discovered through the use of this form of question. It is also valuable to learn the specific language used by respondents in connection with their thinking on a particular subject.

The "yes and no" question is most satisfactory when there is clear knowledge of the precise information sought and where the issue is sharply drawn. It is dangerous, as it encourages answers from respondents who really do not have a clearly formed opinion. In other instances, this type may work in the reverse, actually leading to too large a proportion of respondents who refuse to answer. One of the chief advantages of this form is its simplicity, aiding both in field interviewing and in tabulation.

In the multiple-choice type of question the respondent is presented with a series of prepared answers to the question, and is asked to indicate which one most nearly expresses his opinion. These statements must be carefully worded so that various gradations of attitude are represented and the bulk of respondents can readily fit themselves into one of the categories. The questions are usually type-written or printed on a card, which is handed to the respondent so that he can read them while deciding on his answer. An example of such a multiple-choice question is the following:<sup>8</sup>

1. Our form of government, based on the Constitution, is as near perfect as it can be and no important changes should be made in it. . . . .
2. The Constitution has served its purpose well, but it has not kept up with the times and should be thoroughly revised to make it fit present day needs. . . . .

<sup>7</sup> See Wroe Alderson in Blankenship (ed.), *How to Conduct Consumer and Opinion Research*, op. cit., pp. 295-299.

<sup>8</sup> Adapted from Elmo Roper, "Survey Pitfalls," *Fortune*, February, 1946, p. 6.

3. The systems of private capitalism and democracy are breaking down, and we might as well accept the fact that sooner or later we will have to have a new form of government. ....
4. I have no opinion regarding this subject. ....

As can be seen from this example, the multiple-choice question can become rather complicated. While it is designed largely to cut down the size of the "no answer" and "no opinion" categories, it may become confusing or irritating to respondents.

Multiple-choice questions also frequently fail to provide an adequate basis for the expression of the respondent's opinion. An analysis of the foregoing question was made by Elmo Roper, who devised it. Successive polls in 1939 and 1946 produced rather startling results. The shifts between December, 1939, and October, 1946, surveys indicated that increasing numbers of citizens wanted fundamental changes in our basic form of government. However, in December, 1946, a follow-up question was used: "What sort of revisions do you think are needed to make our Constitution fit present-day needs?" The results showed that the bulk of respondents who wanted change (answers 2 and 3), either were unable to name any desired change or wanted improvements which could be made within the framework of the present Constitution.

An example of the sensitivity of opinion polling to the phrasing of a question is shown by what one word in a question can do to a result. The following responses were received in a poll on broadcasts to foreign countries:<sup>9</sup>

Some people say this is a good idea if the programs stick to news only	11.5%
Other people say it would be better to explain our point of view as well as give the news.....	42.8
Other people think the government ought to stay entirely out of this.	34.3
Express no opinion.....	11.4

At the same time a comparable cross-section was confronted with practically the same set of questions, except that the word *propaganda* was inserted. As a result, the percentage choosing the first statement increased from 11.5 to 27.9, while the percentage choosing the second declined from 42.8 to 24.7. This demonstrates the power of one word, and indicates why utmost caution must be employed in the phrasing of an opinion question.

One practice to overcome this problem is that of using the so-called split ballot. In this device, the same question is used in two

<sup>9</sup> Roper, *op. cit.*, p. 25.

or more different ways with comparable groups of respondents and the answers compared.

Where different wordings of an opinion question produce different results, it does not necessarily follow that the question which most evenly divides the respondents is most neutral or that the question obtaining the closest approximation to the average results of all questions tested has the least bias. A technique has been developed to measure the intensity of response on each question. Each respondent is ranked in context and intensity, and then the scores are cross-tabulated on the opinion scale in terms of intensity to yield an intensity curve. The low point on the scale divides the sample into positive and negative answers.<sup>10</sup>

It is argued that opinion surveys produce erroneous results because questions are put to people who have no knowledge of the issue and snap judgments are frequently obtained. It is also contended that there is variation in the interpretation of the questions, that people are forced into unnatural categories by "yes or no" questions or by multiple-choice questions, that the intensity of opinion is not measured, and that no information is secured as to the reasons behind an opinion.

In order to overcome these difficulties, a pattern of question design that uses five different questions in series on each issue has been developed by the American Institute of Public Opinion.<sup>11</sup> These five types of questions are:

1. Filter questions, which reveal the extent of the respondent's knowledge.
2. Open questions, to reveal general attitudes.
3. The specific-issue question, with "yes or no" or multiple-choice answers.
4. "Reason why" questions.
5. Questions designed to measure the intensity of feeling.

By cross-tabulation the responses are evaluated and the "don't know" answers are separated from the "no opinion" answers.

The importance of going beyond formalized opinion questions is shown by an experiment conducted by the Division of Program Surveys of the Department of Agriculture, which tested the following question asked in a Gallup Poll in 1943:

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<sup>10</sup> See Edward A. Suchman and Louis Guttman, "A Solution to the Problem of Question Bias," *Public Opinion Quarterly*, Fall, 1947.

<sup>11</sup> George Gallup, "The Quintamensional Plan of Question Design," *Public Opinion Quarterly*, Fall, 1947.

After the war, would you like to see changes or reforms made in the United States, or would you rather have the country remain pretty much the way it was before the war?

The Gallup Poll found that 58 per cent of the people wanted things to remain the same. The test by the Division of Program Surveys showed that the respondents interpreted the question in different ways, and that of those who interpreted it in terms of domestic reforms, the majority favored changes. A tabulation by each type of interpretation showed wide variations in the distribution of answers.<sup>12</sup>

Elmo Roper summarizes the challenge to questionnaire construction for opinion researches in the following four points:<sup>13</sup>

1. The answers to all questions cannot be accepted at face value.
2. Conclusions cannot be based invariably on answers to a single question.
3. The importance of the "don't know" or undecided vote is never to be overlooked.
4. The same question, differently worded, might have produced different results.

**Interviewer Bias.**—One of the chief problems in opinion research is the amount of bias which creeps in as a result of the character or activities of the individuals making the study, particularly the field investigator. In one study, it was found that statistically significant interviewer bias was found in approximately three-fourths of fifty-one questions which were tested.<sup>14</sup> As soon as one departs from "yes-no" questions, the amount of interviewer bias increases.

Most of this bias arises because of strongly held opinions of interviewers. Political pollsters have found, for example, that to obtain accurate results it is necessary to inquire into the political beliefs of interviewers, and to have a good balance of various attitudes represented in their field force. In tests in which different interviewers have interviewed identical respondents, definite interviewer bias has been found in nearly one-half of the questions asked in a typical interview.

Aside from being careful to select both a skillful and politically representative group of interviewers, some firms employ the device

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<sup>12</sup> Richard S. Crutchfield and Donald A. Gordon, "Variation in Respondents' Interpretations of an Opinion-Poll Question," *International Journal of Opinion and Attitude Research*, September, 1947.

<sup>13</sup> Roper, *op. cit.*, p. 12.

<sup>14</sup> See Don Cahalan, Valerie Tamulonis, and Helen W. Verner, "Interviewer Bias Involved in Certain Types of Opinion Questions," *International Journal of Opinion and Attitude Research*, March, 1947.



of testing the interviewers themselves. Before a study is released to the field, the prospective interviewers are tested and their opinions recorded on the subjects covered. Those with extreme personal bias are eliminated, and the opinions of each of the field workers employed are tabulated against the opinions of their respondents. Inadequate interviewer training and carelessly or incompletely worded questionnaires also result in interviewer bias.

In addition to interviewer bias in the field, students of public opinion research have discovered that the opinions of the survey planner himself often result in bias. One writer contends that most surveys in the opinion field come out with results favorable to their sponsors.<sup>15</sup> Surveys may be distorted because the pollster wants to prove his client's case or because the pollster's bias may have affected his selection of topics, methods, and interpretation.

A good illustration of this general bias arises in connection with opinion studies relating to labor problems. Kornhauser has contended that such studies consistently reflect an anti-labor bias, pointing out that of 155 questions he has examined, 81 are concerned with union faults and only 8 with union virtues. He also contends that the wording of these questions reflects a bias. As a result of this study, a number of suggestions for reducing bias in labor relations studies have been developed.<sup>16</sup>

The following are specific devices for reducing bias in opinion surveys:

1. Use questions which admit the least amount of interviewer influence.
2. Analyze the prejudices of proposed field workers.
3. Balance field staffs with interviewers of contrasting opinions.
4. Employ interviewers of socioeconomic strata similar to those of respondents, and seek those who can establish genuine rapport with respondents.<sup>17</sup>
5. Tabulate results by interviewers to measure the amount of bias present.

**Sampling in Opinion Research.**—While the general principles of sampling discussed in Chapter 21 provide the basis for opinion research sampling, there is one particular problem which arises in

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<sup>15</sup> Arthur Kornhauser, "The Problem of Bias in Opinion Research," *International Journal of Opinion and Attitude Research*, December, 1947.

<sup>16</sup> See Henry C. Link and Albert B. Freiberg, "Is Dr. Kornhauser Fair to Organized Pollsters?" *Public Opinion Quarterly*, Summer, 1947.

<sup>17</sup> It has been found, for example, that Negro interviewers obtain more plausible answers from Negro respondents, particularly on race relations subjects.

this field, namely, the problem of the cooperators versus the non-cooperators. It is important to keep an accurate check on those who refuse to answer a given question, and to make a careful analysis of the character of noncooperators. A high percentage of respondents may refuse to answer certain questions because they appear to probe into private matters, or because they appear to test intelligence. The researcher must carefully interpret this segment of the sample, for if he merely excludes from his tabulation the respondents who refused to answer, his conclusions may be erroneous. There is also the danger that rebuffs may cause investigators to distort the sample by failing to include certain types of respondents or certain neighborhoods in the total sample. Careful field control of the sampling operation as well as exhaustive pretesting is required to determine whether a proposed research is likely to run into unusual resistance.

**Limitations of Opinion Research.**—Because of the vast increase in the amount of opinion research and the intimate personal effect of some of its findings, there has been a considerable amount of criticism of this field. It has even been urged that opinion polling be placed under government regulation. One critic makes the following statement:

Like vitamins and so many other good things, attitude polls have been adopted by America with its customary unthinking enthusiasm for new things. Polls are an enormously useful implement when honestly, efficiently and intelligently gathered and understood. On the other hand, they are potentially dangerous weapons in the hands of the unwise, the inept, the dishonest or the anti-social.

"Not all polls are honestly conducted, not all polls are accurately taken, not all polls are intelligently interpreted, polls rarely educe future attitudes."<sup>18</sup>

There can be no doubt that this difficult art is fraught with danger, particularly when practiced by the novice. However, it has been one of the most self-critical fields of research, and a large body of literature which constantly leads to its improvement is being developed.<sup>19</sup> Opinion research requires careful interpretation. Above all else, experience and personal judgment are paramount. There can be no doubt that this specialized field has earned its place, both

<sup>18</sup> Edward L. Bernays, "Attitude Polls—Servants or Masters?" *Public Opinion Quarterly*, Fall, 1945, pp. 263–268b. See also Blankenship, *Consumer and Opinion Research*, *op. cit.*, Ch. 15.

<sup>19</sup> See Elmo Roper, "Sampling Public Opinion," *Journal of the American Statistical Association*, June, 1940, pp. 325–334; George Gallup, "Question Wording in Public Opinion Polls," *Sociometry*, August, 1941, pp. 259–268 and Daniel Katz, "Do Interviewers Bias Poll Results?" *Public Opinion Quarterly*, Summer, 1942, pp. 248–268.

as a public service and as a scientific method of marketing research. The quality of opinion research can be improved by knowing what, how, when, and where to ask for opinions.

A clear-cut public opinion toward a manufacturer, a dealer, or a product is one of the strongest forces encountered in marketing. H. G. Weaver, of the General Motors Corporation, continually stressed the point that an opinion, if strongly held, is more important than a fact—that such an opinion is in itself a fact, and should be regarded as such by the businessman. Whether the opinion is right or wrong is beside the point. Where belief and fact are opposite, the businessman must conduct his operations in accordance with the belief. He may, in time, so educate the public that their opinions will change, but he cannot successfully work counter to the opinion while it exists. Accurate measurement of opinions is, therefore, one of the most valuable contributions of marketing research, for it shows the businessman how to conduct his activities in the light of established opinion and, sometimes, the means of changing that opinion.

## CHAPTER 11

### ADVERTISING RESEARCH—COPY TESTING

**Marketing Research and Advertising Strategy.**—Nearly all forms of marketing research are of direct or indirect interest to the advertising man. Certain phases have led to the development of special techniques which have directly improved the efficiency of advertising. The results of general studies of markets, products, consumers, and dealers have also been of great help to those responsible for the planning and development of an advertising program.

The basic elements in effective advertising strategy are the development of (1) the most effective message for the printed page or radio (*copy*); (2) the most efficient vehicles to carry the message (*media*); and (3) the best merchandising devices to stimulate and supplement the general advertising (*sales promotion*). The first function is performed by the creative staff of artists and copywriters, the second by media specialists, and the third by the merchandising staff. In the advertising agency and in the advertising department there are experienced men responsible for these functions.

Advertising research makes its greatest contribution when it provides scientific facts which are employed effectively in connection with each of these three essentials of sound advertising. This has led to further specialized fields of advertising research, known as copy testing, media analysis, and merchandising research.

If marketing research is to be used as the basis for the general planning and development of an advertising campaign, it should obtain vital facts about the market and marketing methods which can be placed at the command of the creative staff in order that they may use their special abilities to develop the best possible campaign. Just as facts about the market—its habits, desires, and other characteristics—must be placed in the hands of the creative staff, facts about the location, reading habits, and other matters which indicate the manner in which the message should be directed, must be made available to the space or time buyer before he can make his fundamental decisions.

Marketing research thus lays the groundwork for a basically sound, well-directed advertising operation. By the time the analyst has played a significant role with others who are responsible for the development of the advertising, so that a clear-cut campaign operation results, he may feel that the full possibilities of marketing research in relation to advertising have been exploited. After this has been done, copy testing may make a useful contribution by revealing the relative value of specific advertisements thus developed, and media analysis can make a significant increase in the efficiency with which advertising dollars are spent.

A study made by the Statler Hotels<sup>1</sup> illustrates the contribution that marketing research can make to general advertising campaign strategy:

1. We wanted to reach both men and women, but predominantly men.
2. We wanted to appeal primarily to the business traveler. Remember the large percentage of businessmen who were our guests?
3. We wanted our advertising to have the kind of atmosphere which would reflect Statler hospitality. The editorial content of the medium we would use should add to this impression.
4. We have found that 20 per cent of all our guests accounted for approximately half of our yearly registrations, and the remaining half are guests who come only once during the year. We, therefore, felt we needed a large volume of circulation in order to seek out prospects—but it should be a selective circulation, with a good concentration among middle and upper income groups.
5. Many of our best prospects are frequent visitors to our cities who patronize other hotels. In many cases they have formed a long-standing habit which we felt we had to overcome.
6. Those who travel infrequently—particularly the one-timers—are probably not normally interested in the subject of hotels. They may contemplate a trip at any time, which pointed to the need of frequency in our advertising.
7. Volume circulation and frequency make low cost a most important factor—thus we needed volume circulation.

Another example, taken from the industrial field, of the way in which basic marketing research is related to the planning of advertising is shown in the following summary, of general research employed by one advertiser:<sup>2</sup>

1. The analysis of the potential customer.
2. The analysis of the product.
3. The analysis of competition.

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<sup>1</sup> Howard F. Dugan, *Analyzing Your Sales Market and Advertising, Publicity and Direct Mail*, privately printed, 1940, pp. 13–14.

<sup>2</sup> Francis Juraschek, "Industrial Market Research in Relation to Advertising," *Industrial Marketing*, March, 1946, p. 48.

4. The analysis of distribution.
5. The analysis of past and present sales accomplishments.
6. The analysis of secular trends.

**Copy Research.**—To help the creative staff develop the best possible advertising copy or message, advertising research provides several types of facts.

**FACTS ABOUT THE PRODUCT.**—The basic foundation of any advertising campaign must be a sound product. The function of advertising research in this connection is to develop those facts about the product which provide the strongest selling points from the point of view of the consumer, and to reveal the weaknesses of the product from the point of view of aggressive marketing in order that they may be overcome.

The research department makes a thorough study of product history, development, formulas, and performance data, summarizes the data, and makes them available in usable form to the creative staff. In most instances the advertiser has already done a considerable amount of marketing product research (see Chapter 3). The advertising researcher analyzes the results of all these studies for the copy department. In addition to relying on the material readily available from the client, it is usually desirable to conduct competitive product tests or to engage in various other forms of product research to provide material used as a foundation for the advertising.

**FACTS ABOUT THE BASIC REQUIREMENTS OF THE MARKET.**—By revealing the basic needs, requirements, and attitudes of the consuming market, research indicates what appeals an advertising message should have. Here again, it is the function of the research department to analyze all available data both from consumer surveys made by the advertiser and from other sources, such as advertising media. However, it is generally necessary to conduct consumer surveys, particularly regarding buying motives, as a specific part of the advertising research program.

**DETERMINING THE BASIC FUNCTION OF ADVERTISING COPY.**—Marketing research can make a major contribution to advertising by defining the specific objectives of the campaign and by showing how the advertising may be coordinated with the basic selling strategy. While the ultimate objective of advertising is to "sell goods at a profit," this is too vague for modern campaign planning. Research of advertising history, consumers, or dealers may point to

one or more of many specific objectives, such as increasing dealer distribution or increasing acceptance in particular market segments. If the purpose of a specific campaign, for example, is to bring prospects into dealers' stores, the recognition of such a specific objective will affect the entire creative advertising operation. An analysis of the manner in which the sales and dealer organizations operate is usually indispensable to the development of a sound copy plan.

The conduct of dealer surveys and the analysis of distribution are essential not only from the point of view of the development of advertising copy. Media and sales promotion strategy rely heavily on accurate and up-to-date dealer research. If this phase of advertising research is made an important element of the program, the advertising itself becomes much more realistic and its effectiveness at the point of sale is stimulated.

### Copy Testing

The greatest amount of research in connection with the creative aspects of advertising is in copy testing. Copy testing embraces research which is designed to measure directly the relative effectiveness of specific copy themes, individual advertisements, and particular elements within advertisements.

It has been demonstrated that it is possible through research to develop certain bench marks which greatly increase the sales effectiveness of the message put in the white space of a publication or delivered over the air in radio or by television. An advertiser who spends at the rate of \$1,000,000 per year, and who through copy research can increase the effectiveness of his message by 10 per cent, has in effect obtained \$100,000 worth of extra advertising free. On the other hand, an advertiser who also spends at the rate of \$1,000,000 a year, but whose copy is only 75 per cent effective, is wasting \$250,000. Studies show that in many fields the best copy can readily be 100 per cent more effective than poorer copy.

Many different methods and variations in methods have been developed for copy testing. A great deal of controversy develops from time to time regarding the validity of these techniques, and frequently some new and presumably unique device is developed. However, all copy-testing procedures fall into the following major types:

1. Consumer-jury surveys.
2. Coupon-return analysis.

3. Recognition and recall tests.
4. Psychological analysis.
5. Sales area tests.
6. Controlled experiments.

**Consumer-Jury Surveys.**—The consumer-jury test is based on consumers' opinions under controlled conditions in which they are presented with alternative choices. The consumer rates themes or specific advertisements according to his opinion by direct comparison. This type of rating is fundamental to much experimentation in psychology, and has been effectively adapted to advertising copy research.

In using the consumer-jury method to evaluate advertising themes, two methods are most commonly employed. The first, known as the "shuffle-card technique," involves the preparation of a series of statements regarding the product, each of which presents a distinctive approach which might be employed as the basic theme of a campaign. The following are examples of theme statements in a research for men's shoes:

1. This brand is worn by leading professional men, actors, and business executives.
2. This brand is the most comfortable on your feet.
3. This brand wears the longest.
4. This brand is made of the finest English-type leather.

These statements are then typed on small cards, a set being placed in the hands of a prospective buyer of the product, and the respondent is asked a question similar to the following:

Please read each of these statements carefully, and tell me which one would be most likely to cause you to buy a particular brand of shoes.

After the respondent has selected one statement, the card is removed and the process is repeated until a ranking is obtained.

There are many variations in the method. One variation is to ask for the two or three most important reasons without attempting to obtain a preference. Another is to ask for the least important reasons first. A good deal of experimentation is necessary to develop the best statement of the theme and the best procedure for obtaining rankings in any given situation. This method is known as the "shuffle-card technique" because the set of cards is shuffled between interviews to eliminate the influence of order of presentation.



The second method of evaluating advertising themes by the consumer-jury method is to prepare a series of standardized advertisements, each of which represents a different basic campaign theme. Usually these are in the form of standard layouts, with standard illustrations, so that the only variation is in the headline or in the headline and a paragraph of copy. These are then reproduced in photostat form and shown to consumers, who indicate their preferences.

The consumer-jury method is also extensively applied in evaluating various elements of advertisements. Consumers are shown two or more sample advertisements, and asked which advertisement interests them the most, which headline appeals to them, which illustration they like best, etc.

In conducting consumer-jury tests there are three aspects which must be handled with utmost care. The first is the selection of individuals to be interviewed. This is a problem in sampling control, and the most important principle is to be sure that the test is limited to genuine consumers of the product and that various types of consumers are adequately covered. It is much too common practice to run consumer-jury tests among the employees of an advertising agency or of the advertiser, to place an interviewer near Grand Central Station, or to send interviewers out at random to make street interviews. The sample must be distributed carefully by the various market segments, such as age, sex, and economic status. Unless this element is properly controlled, the results may be quite erroneous.

A second important factor in consumer-jury tests is the preparation of the materials to be used. A properly conducted consumer-jury test requires a considerable amount of effort and patience in the development of the materials, then a good deal of testing of the materials themselves before the final survey is made. This is essential because a true consumer-jury test must be made under carefully controlled conditions so far as the material presented is concerned.

Finally, interpretation is most important. There is a tendency to take the opinion rankings obtained in a consumer-jury test without carefully appraising the meaning of these rankings, the statistical significance of them, and the limitations of this type of a study. The total ranking votes for a long series of choices seldom tells the complete story. Only by using a battery of tests, by breaking down the results by different segments of the market, and by care-

fully interpreting the significance of differences can the full value of this method be obtained.

The consumer-jury method has one outstanding advantage: it can be employed before advertisements have been run and a large sum of money spent. Since it is the most flexible of all forms, a wide variety of ideas can be tested economically. It is not the most effective procedure for measuring fine and obscure differences in themes or methods of copy presentation. However, one of its greatest values is that it can warn an advertiser against some basic mistake which might be made through failure to understand some one element or reaction of consumers to a proposed advertising effort. An example is the following:

Several years ago a well-known company had advertised a canned food in expensive space, featuring a contest with ten first prizes of paid two-week trips to Hollywood. The small number of entrants led the advertiser to wonder regarding the reasons. A simple controlled opinion test indicated that 42 per cent of the women who used the canned food with some regularity had babies or young children and would have found it very difficult or impossible to go to Hollywood! Another 23 per cent didn't want to go without their husbands! A supplementary test with unmarried girls 15 to 20 years of age showed 90 per cent interested in going to Hollywood. But only 17 per cent had ever prepared a can of the food. This advertiser might well have saved from \$60,000 to \$100,000 by a simple controlled opinion test of the basic appeal—the unwanted trip to Hollywood!<sup>3</sup>

**Coupon-Return Analysis.**—In coupon-return analysis various themes, advertisements, or elements are measured on the basis of the number of inquiries received in response to a specific offer contained in the advertisement. In the case of products sold by direct mail, this method is generally the sole copy-testing procedure applied, since the number of actual sales produced by an advertisement is a direct guide to its efficiency. However, it is not always easy to trace the result to copy, as opposed to the medium, or other influences. A series of carefully controlled tests must be devised to make this method completely accurate, even in the case of products which can be sold by direct mail.

The bulk of coupon-return analysis is made for products which are not sold on the basis of direct orders from the advertisement. It is therefore necessary to resort to premiums offered in the advertisements as the yardstick. This raises a continuous contro-

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<sup>3</sup> Albert D. Freiberg, in Albert B. Blankenship (ed.), *How to Conduct Consumer and Opinion Research*, New York, Harper & Bros., 1946, p. 129.

versy as to whether the number of inquiries for booklets or other premiums, which are not the product being sold, is a true measurement of the sales power of an advertisement. One school aggressively contends that the correlation between direct response and indirect response to an advertisement is so high that coupon returns may be almost universally used as the most efficient guide to advertising effectiveness. Others contend that the function of most advertisements is long-range and indirect action, that there are so many variables affecting coupon returns, that a special class of persons responds to answers, and that the offer itself is such a distorting influence that coupon analysis can be used only in a limited fashion.

Two types of coupon analysis are in common use. The first is the continuous analysis of returns from special merchandising premium offers, in which a long-range history can be developed by comparing returns for different pieces of copy employed during regular campaigns. The second is the use of special test insertions designed to measure the effectiveness of various copy themes and devices under controlled conditions. The latter has obvious advantages, but the value of obtaining all possible information from the experience in coupon returns obtained in the regular course of advertising should not be overlooked in any copy-testing procedure. One of these values is that analysis of experience provides a background for proper interpretation of the results of a controlled test.

Various devices for employing coupons in a copy test are available. The first is to make an open coupon offer of a standard premium in a series of test advertisements. An example of this technique was the test of the cartoon-strip technique by the Pepsodent Company. The strip featured Amos 'n Andy, their radio stars, and was made both in black and white and in color form in newspapers in four cities. The offer was a free sample of the product, which was considered a more accurate gauge of the selling power of the advertising copy than an unrelated premium, such as model airplanes or live turtles.

Another example of the open-coupon device is the tests conducted by the Dennison Manufacturing Company to determine the relative strength of copy appeals for various craft uses of its products. Instruction booklets for making crepe paper flowers, necklaces, etc., were offered in coupons inserted in a series of advertisements.<sup>4</sup>

<sup>4</sup> These tests are described in William A. Sturgis, "Most Effective Appeal for Volume Usage of a Product," *Printers' Ink*, September 4, 1942, pp. 20-53.

A different device is the so-called "hidden offer." In this technique no coupon, as such, is employed. Instead, a premium offer is buried in the copy, usually near the end of the advertisement. This device is directed to those persons who are sufficiently attracted by the advertisement to read it completely, and it eliminates the "coupon hounds" who glance through media for free or inexpensive offers. One must be cautious in using this method, because of the comparatively small number of returns received as a result of hiding the offer.

Another device employed in coupon tests is the split-run technique. In most coupon analyses comparisons must be made between different media and different time periods, with the result that one is always in doubt as to the extent to which the media or time of insertion, rather than the copy, have influenced results. A number of magazines, such as *Family Circle*, *Sunset*, and *Grit*, offer the split-run service, in which different advertisements may be inserted in one issue, so that the influence of the medium and time are held constant. Split-run testing is also available from some newspapers.

The biggest research problem in the use of the coupon-analysis method of copy testing is the elimination or control of the many variables which may influence a given result. Some of the variables commonly encountered are size of advertisement, position, season, and media characteristics. It is generally necessary to analyze returns by each variable; the relation of each variable to the number of returns should be noted and return figures adjusted accordingly to level out the effect of the variable. Correlation techniques have been successfully applied in the control of variables in these tests.<sup>5</sup>

**Recognition and Recall Tests.**—The largest physical volume of copy testing is devoted to readership of published advertisements. The basic research technique is to obtain the recognition and recall of specific advertisements by interviewing readers of magazines or newspapers. After making certain that the respondent has read a specific issue of a magazine or newspaper, the interviewer turns the pages of the publication, indicating, by pencil marks on each page or by checks on a specially prepared reporting form, the specific parts of advertisements (and editorial copy) which the respondent claims to have read. These data are then analyzed to yield such figures as "% seeing (or noting)," "% reading some," and "% reading most."

<sup>5</sup> Paul A. Amundsen, "A Formula for Evaluating Industrial Advertising from Inquiries," *Industrial Marketing*, January, 1947, pp. 37-139; February, 1947, pp. 38-78; March, 1947, pp. 45-139.

Readership data are provided continuously on magazines by the Starch Readership Service and for selected newspapers by the Bureau of Advertising. Special studies are also made from time to time by advertising agencies, advertisers, media, and foundations.<sup>6</sup> The technique has also been applied to outdoor and transportation advertising.<sup>7</sup>

Readership obtained by individual advertisements is examined carefully by creative men to see the results of various copy techniques. Elaborate analyses by machine tabulation of readership reports on thousands of advertisements are also made by research departments. In these analyses various characteristics of advertisements, such as type of appeal and illustration, are related to the readership obtained; correlation methods are often employed to arrive at general principles. It is most important to make such analyses by carefully selected product groups, for the readership of advertisements is greatly influenced by this factor.

An analysis of 902 food advertisements in newspapers, for example, showed that skill in copy was a more important influence than size of advertisement, and that advertisements employing such editorial techniques as news photos, cartoons, and comic strips were 249 per cent more effective than conventional display advertisements in attracting reader attention.<sup>8</sup> Studies of display advertisements showed that a single illustration was superior to multiple illustrations, a dominant illustration was better than an incidental one, and photographs were superior to wash or line in obtaining high readership.

A further illustration of the value of readership studies may be found in the industrial field. There has long been a difference of opinion among creative men as to the relative effectiveness of informative product copy as opposed to prestige copy, which employs more dramatic devices and extensive art work. The results of an analysis of readership data by the Advertising Performance Laboratory of the McGraw-Hill Publishing Company indicate that informative advertisements, which tell a reader what the product will do for him, attract a greater readership than either

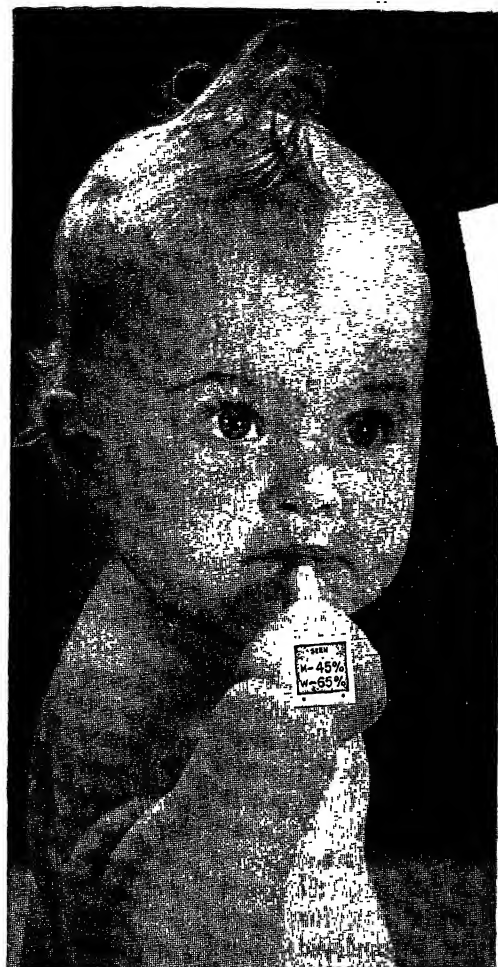
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<sup>6</sup> For an interesting example of a special study, which included the use of a triple-associates test, see Bernard Belley, "Toward a Measure of Pharmaceutical Advertising Effectiveness," *Journal of Business of the University of Chicago*, April, 1943, pp. 107-114.

<sup>7</sup> See *More Power in Newspaper Ads*, Parts 1 and 2, Bureau of Advertising, American Newspaper Publishers Association, 1948; *Continuing Study of Farm Publications*, No. 2, Advertising Research Foundation, 1947; and A. W. Lehman, "How Effective Is Transportation Advertising," *Advertising and Selling*, August, 1946.

<sup>8</sup> See Alfred B. Stanford, "What Makes Newspaper Ads Pull," *Advertising and Selling*, September, 1946.

READ MOSTLY "READERS WHO HAVE"  
 M-45% W-39%  
 M-45% W-39%  
 M-65% W-59%



## Have You Heard About the Telephone Birth Rate?

READ MOST  
 M-29%  
 W-45%



1948 was a mighty big year for additions to the telephone world.

Your own particular telephone is more valuable today, millions of calls go through clearer and quicker, because of the many things that have been done to extend and improve

READ MOST  
 M-8% W-6%  
 M-13% W-9%

You can call more people, because nearly 3,000,000 Bell telephones were added to the telephone population—many in your own community.

Long Distance service is faster and there is more of it because 1,800,000 miles of new circuits were added. A total of \$1,500,000,000 was invested in new Local and Long Distance facilities in 1948.

We broke all records for the volume of new telephone construction, the dollars we put into the job and the number of telephone people on the job.

We're going to keep right on working and building in 1949 to make your telephone service a bigger bargain than ever.

READ MOST  
 M-29%  
 W-6%

BELL TELEPHONE SYSTEM



Figure 12. An Advertisement Rated for Readership

The percentage figures for men and for women readers are denoted by M and W, respectively. "Noted" means the percentage of readers of the particular issue of the magazine being studied who report that they have looked at anything in the advertisement. "Seen-Associated" means the percentage who saw the advertisement and identified it with the advertiser or brand advertised. "Read-Most" is the percentage who read half or more of the body text. Figures placed over individual elements of the advertisement show the percentage of men and of women who read each element, such as the headline. (Courtesy Daniel Starch & Company)

inquiry copy or institutional advertisements.<sup>9</sup> The study also analyzes the results obtained by various illustrations and length of copy.

A number of technical problems arise in connection with the conduct of readership studies. Since much of the data available are provided by syndicated services free to advertisers or at a nominal cost, there are always the questions of the adequacy of the sample, the quality of interviewing, and the adequacy of proper field and analysis controls.<sup>10</sup>

The chief problem, however, is that of confusion on the part of the respondent. Because the typical magazine or newspaper reader is confronted with thousands of advertising messages from many sources, and most reading is done very casually, he is usually unable to recall specific parts of individual advertisements when interviewed sometime after publication. Furthermore, large national advertisers establish such familiarity with their campaigns that it becomes almost impossible to separate specific insertions in an individual issue of a publication from other advertisements so similar in make-up. Studies of reader confusion point to many elements which cast doubt on the accuracy of much readership data.<sup>11</sup>

One effort to overcome reader confusion is the development of "confusion control." This device involves the insertion of advertisements which have not yet been published in a kit with other advertisements on which readership is to be measured. The readership figures on advertisements which the respondent could have seen are then adjusted by subtracting the readership claimed for advertisements which could not have been seen.

There are many dangers in the use of the "confusion control" technique. Its use in itself tends to confuse readers. A simple formula for adjustment cannot be employed; instances have occurred where the readership claimed for advertisements not yet published has exceeded that of advertisements which the respondent could have seen. Many organizations which have experimented with various "confusion control" procedures have eliminated their use or employ them only to detect cases of obvious exaggeration, which are then eliminated.

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<sup>9</sup> See "High Reading for Industrial Ads," *Tide*, August 6, 1948, p. 24.

<sup>10</sup> See Ralph O. Nafziger, "Problems in Reader-Interest Surveys," *Journal of Marketing*, April, 1945, pp. 359-363.

<sup>11</sup> See Charles L. Bigelow, "Elements of Confusion in Newspaper Readership Study," *Journal of Marketing*, January, 1948, pp. 337-347.

As a matter of fact, experiments designed to measure the accuracy of readership studies under controlled conditions, where the reader was observed by a hidden observer and later interviewed by the normal readership-survey procedure, indicate a high ability of readers to recall accurately what they have read.<sup>12</sup> These tests establish the validity of the readership survey in principle, provided that it is properly conducted.

The judgment of the best practitioners is that the test of readership research is primarily the quality of the field work. The readership interview is usually a long one, because of the large editorial and advertising content of the modern magazine or newspaper. The result is an ever-present tendency for the interviewer to rush through the interview, to influence results by hints and assumptions, and in other ways to do sloppy work. One of the most important considerations is to establish a favorable interviewing situation. This involves both physical factors, such as the position of the publication, the respondent, and the interviewer, and the establishment of proper rapport between interviewer and interviewee, so that full cooperation is obtained and the respondent will recall as accurately and objectively as possible. Careful planning of both the interviewing procedure and the training of field workers, rather than the invention of tricky devices, is the primary technical concern in readership studies.

An extension of the Starch Readership Service, called the "Buyometer," attempts to relate readership of advertisements to sales effectiveness. This method, introduced in 1944, operates as follows. At the close of a readership interview the interviewer produces a list of products frequently purchased and asks, "Do you use — brand at the present time? If so, when did you last buy it?" The number of people who bought a particular brand because of the advertisement is estimated by subtracting three subgroups of purchasers from the total number who have said that they read the advertisement and also bought the product. The first subgroup eliminated, for example, is composed of those who would have purchased anyway; this is based on the number of readers who reported that they bought the product but did not read the particular advertisement. By a scheme of ratios and imputations, an estimate is made of the sales resulting from a given advertisement.<sup>13</sup> For instance, if a tooth paste advertisement has a read-

<sup>12</sup> Herbert C. Ludeke and Ruth A. Inglis, "A Technique for Validating Methods in Reader Research," *Sociometry*, Vol. 5, No. 2, 1942, pp. 109-122.

<sup>13</sup> See Daniel Starch, "How an Ad's Sales Power Compares With Its Readership," *Advertising and Selling*, July, 1946.



ership rating of 16 per cent in a magazine with 8,550,000 readers, and a Starch effectiveness rating of 12 per cent, the estimate of sales produced by that advertisement would be 164,160 tubes. The results are fascinatingly specific, but they depend on so many assumptions that they are not broadly accepted. Presumably this procedure will eventually be applied to both copy and media analysis. It is similar in some respects to the "customer quotient" analysis by Manville.<sup>14</sup>

Starch's findings regarding the effectiveness of strong and weak advertisements, based on relative Buyometer ratings of 583 advertisements, are shown in the following table:<sup>15</sup>

TABLE 25  
INFORMATION AND READER INTEREST IN RELATION TO SALES  
POWER OF 583 ADVERTISEMENTS

Classification of Information and Interest	Number of Ads	Buyers per Dollar	Sales Performance Index
1. Above average in both information and reader interest .....	113	5.80	163
2. Above average in information but average in reader interest .....	203	4.92	138
3. Above average in information but below average in reader interest .....	35	3.38	95
4. Average for all advertisements .....	583	3.56	100
5. Below average in information but above average in reader interest .....	30	3.83	107
6. Below average in information but average in reader interest .....	119	2.83	79
7. Below average in both information and reader interest .....	34	2.00	56

**Psychological Analysis.**—The studies of the psychologist and the experimental work in psychological laboratories have provided a considerable amount of material on copy testing. Since the whole process of advertising is psychological in character, it is natural that certain psychological procedures have been adapted for copy testing. As more is learned in this area, the contribution of psychology may ultimately be more significant than the purely quantitative statistical measurements which tend to dominate the field today. Unfortunately most psychological techniques

<sup>14</sup> See page 226.

<sup>15</sup> Daniel Starch, "Informative Ads Outsell Others 3 to 1," *Advertising and Selling*, December, 1946.

tend to be rather abstruse in their demonstration, hence have met considerable resistance by advertising men.

Six psychological testing techniques are used: tests of readability, tests of believability, attitude tests, word-association tests, triple-associates tests (theme penetration), and depth interviewing. Tests of readability and comprehension are a specific psychological technique which can be applied to the content of an advertisement.<sup>16</sup> Every book on copywriting emphasizes simplicity of presentation, yet examination of a set of current advertisements makes it clear that the writers are continually tending to stray from this dictum. We also know that the ability of individuals to read is severely limited, for even at the college level simple reading difficulties are a chief cause of failure. Recently a great deal of work has been done in psychological laboratories to devise more effective methods of testing individuals for ability in reading and in comprehension of a piece of writing. These identical methods can be employed in copy testing to determine, in advance of publication, the ease of readability and comprehension of proposed copy. One advantage of applying this method is that its results are diagnostic in character, that is, the tests show the specific items in an advertisement which are too difficult in either readability or comprehensibility.

The second type of psychological analysis applied in copy testing is the test of believability. Most people agree that an advertising message, to be effective, must have a high degree of credibility on the part of the readers or listeners. Measurements of credibility employ a scale technique, in which various statements or product claims are rated by consumers against one another, to produce a curve of credibility on the basis of which items are excluded from copy. This type of research is particularly useful when coupled with readership studies, as it is generally believed that many types of advertisements which strive too much for high readership employ techniques which impair believability.<sup>17</sup>

A third form of psychological analysis measures attitudes produced by a proposed piece of advertising copy. Various types of attitude tests have been developed by psychologists and applied to copy testing in this manner: typical consumers are exposed to sample advertising messages, either printed or oral; the attitudes produced by these various messages are then determined by means of a series of penetrating questions. This type of research prom-

<sup>16</sup> See Rudolph Flesch, "How Copy Writers Can Use Readability Tests," *Printers' Ink*, August 31, 1945.

<sup>17</sup> See Richard Manville, "Here's a New Technique for Testing Readership," *Advertising and Selling*, May, 1947.

ises to yield a great deal of value in copy testing as it is further developed. It is also particularly significant when combined with readership studies.

A fourth form of psychological analysis is the word-association test, which is particularly useful in connection with theme development. One of the great unknowns constantly bothering advertising men is precisely *why* people purchase a particular brand of a given product. People are not able to provide a usable direct answer to this question, and a great deal of effort has been devoted to the development of methods which can get at the basic buying motives.

The use of word-association techniques as a basis for theme development has been very successful in a number of instances. One method, called "semantic analysis," asks the respondent his reason for using a particular product or brand, then carefully records his exact answer. Instead of tabulating the answers, a word count is made. From an analysis of the frequency with which individual words appear, a list of buying motives is compiled. This list becomes the basis for developing the copy theme. In the case of one product, the words "fresh" and "mouth" appeared with surprising frequency, indicating that copy directed to the idea that the consumer would have a fresh feeling in the mouth after using a particular brand, would be effective. Incidentally, at the time this study was made, not a single advertiser was stressing this claim. Semantic copy analysis is sometimes one of the best means of getting the copy theme out of a rut.

Another form of word-association testing to develop themes presents a group of typical consumers with prepared word lists. Words which express likes and dislikes in connection with a particular product are selected on the basis of interviews with people who are unusually able to express themselves. From such prepared lists other people are generally able to pick out those words which describe their likes and dislikes.<sup>18</sup>

In addition to providing a basis for developing the copy theme, the results of word-association tests are often invaluable to copywriters by giving them clues as to the specific language to employ in writing the message. A comprehensive study will also reveal differences which may exist in sense qualities of words between different classes of consumers.<sup>19</sup>

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<sup>18</sup> Albert J. Wood, "Word Association Tests Help in Product and Copy Research," *Printers' Ink*, October 11, 1946.

<sup>19</sup> See James M. Vicary, "Word Association and Opinion Research," *Public Opinion Quarterly*, Spring, 1948, pp. 81-98. This article illustrates the psychological technique of word association.

A fifth type of psychological analysis is known as the triple-associates test. In this procedure the consumer is given an advertising theme or slogan, the general type of product advertised, and is asked to identify the brand. The question might be phrased: "What brand of cigarettes advertises 'For a treat instead of a treatment?'" The percentage correctly identifying the brand is computed and then compared with similar ratios for other brands. This procedure is sometimes known as "theme penetration," particularly when a series of studies is made periodically to determine the increase in correct identification during the progress of a new campaign. By careful selection of the elements to be tested and proper presentation of these elements, the method may be extended beyond the field of campaign themes and slogans to obtain highly significant measurements to guide copy policy.

The sixth form of psychological analysis is depth interviewing.<sup>20</sup> The depth interview is an extended, penetrating interview conducted by a highly skilled interviewer who allows the respondent considerable latitude in responses. The procedure is a product of the psychiatric and psychological laboratories. The technique has been adapted to question consumers in order to get at the subsurface motives which influence the purchase of various products. It has been claimed that a series of depth interviews with only a few competent respondents can provide the basis for channeling copy themes in the right direction.

**Sales Area Tests.**—Sales area tests apply the experimental procedure to copy testing by making sales results the yardstick of the effectiveness of advertising copy. Trial campaigns employing different themes or copy presentation techniques are run in a group of local markets, and sales are then measured by store audits.

This method is theoretically the best procedure for measuring the over-all effectiveness of advertising because the testing standard is sales results. It is not employed more extensively, however, because of the difficulty of controlling the many variables, such as differences between markets, competitive activities, sales efforts, weather, and media, which are likely to distort results. Furthermore, sales area tests are very expensive, take a long time to run, and tip an advertiser's hand to competitors. Nevertheless, a great deal can be learned from experience in the control of these tests, and those who are willing to carry out a real program of sales area testing have a measurement of advertising effectiveness in which more

<sup>20</sup> See Ernest Dichter, "Psychology in Market Research," *Harvard Business Review*, Summer, 1947. See also William A. Yoell, "A Technique of Depth Interviewing," *Printers' Ink*, January 31 and February 7, 1947.

confidence can often be placed than in the indirect copy-testing devices.

Sales area copy tests are but one specific form of the experimental method applied in marketing research. The various procedures and problems encountered in the use of this method are discussed in detail elsewhere in this book. (See especially pp. 513-516.)

**Controlled Experiments.**—Controlled experiments are similar to the sales area test in general character, but are conducted on a much smaller scale. This method promises a great deal for copy testing. One form of the controlled experiment commonly used is to erect standard displays in a series of retail stores, varying only the copy theme presented on a card, which is an integral part of the display. Sales in a series of outlets during a given period are recorded as the basis for measuring the effectiveness of the various themes tested. In addition to themes, other elements which can be adapted to presentation in a store display, such as illustrations, may be tested by this method.

Another variation of the controlled experiment is to place a salesperson in a high traffic area in a large store. This individual, operating like a demonstrator, stops persons and tries to sell the product, using carefully worded statements of various themes. The percentage of successful sales is recorded as the basis for measuring the value of each theme. A further variation of this method is to attempt to sell the product door to door. Learning the resistances to the purchase of the product is one of the chief advantages of this procedure. This method is not used extensively because of the difficulty of standardizing the sales presentation.

An interesting example of the application of a controlled experiment for copy testing involved the use of signs in six identical cafeterias. A product containing soybeans was involved. The use of various terms to describe ingredients was employed in order to determine experimentally the effectiveness of various combinations of appeal in increasing the acceptability of soybeans and their products. The number of servings taken during test periods became the criterion for judging the effectiveness of various appeals.<sup>21</sup>

The use of door-to-door circulars also illustrates the variety of ways in which controlled experiments may be employed in copy testing. In one instance handbills, which were adaptations of proposed advertisements, were distributed in saturation quantity in

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<sup>21</sup> Patricia Woodward, "The Relative Effectiveness of Various Combinations of Appeal in Presenting a New Food," *American Journal of Psychology*, July, 1945.

neighborhoods surrounding selected stores. Store audits of sales were then employed to measure the effectiveness of the various presentations.

Still another example of special controlled copy experimentation is the use of "storecasting" commercials. The development of the public address system and musical broadcasting in retail stores has opened up this opportunity. In a series of experiments in Philadelphia grocery stores, which extended over a thirty-week period, various commercials were broadcast within the store over the public address system. Interviewers, stationed at predetermined locations, observed the amount of merchandise sold as a result of specific commercials.

### The Place of Copy Testing in the Research Program

In a subject so volatile as advertising, with such a variety of beliefs as to what constitutes effective copy and creative ability, it is natural that there should be considerable skepticism of copy-testing methods. Too often too much has been claimed for copy testing. There is no doubt that researchers have frequently worked with shaky data and imputed far too much value to their findings. Furthermore, all too often there have been tendencies to attempt to break down the testing of individual segments of the advertisement much too finely. At present there is a growing tendency on the part of the more experienced analysts to test the total effectiveness of the advertisement, rather than to attempt to break it down into the various elements.

Unfortunately, so much emphasis has recently been placed upon copy-testing methods that the broader and more fundamental forms of advertising research have been overlooked. An examination of the techniques employed will reveal that many of the methods confine themselves to a single, sometimes minor, phase of advertising, such as the attention-value of the advertisement. Those who believe that the ultimate test of advertising is its effect upon the sales of a commodity and the profits of the company manufacturing it, place more emphasis upon the other applications of marketing research in the field of advertising.

One of the needs in copy testing is for a closer association between the researcher and the creative man. Rather than running tests on more or less finished advertisements, the researcher should establish a friendly working basis with those who are responsible for preparing copy, and work closely with them during the development

of the copy. One advantage is that the researcher should know from experience the kind of copy that is subject to adequate testing, and that can aid in the creative development of materials to be tested. Another advantage is that familiarity with the material will enable him to do a much more competent job of testing itself. More important, he will be in a far better position to interpret the results of the test so that they are applied effectively in the development of the final advertising copy.<sup>22</sup>

Perhaps the greatest single consideration in the development of successful copy testing is to employ the particular methods which will be most productive in a given situation. Bad copy testing has most often resulted from the tendency of individual researchers and organizations to employ some one method of copy testing more or less automatically, often to the point of promoting the method rather than solving the copy problem. Actually, in most situations, a combination of methods is needed to produce effective results. The discussion in this chapter has shown that there are a variety of methods of copy testing, all with merits and all with limitations. The test of the researcher is the breadth of his understanding of these various methods and the skill with which he can devise a program of copy testing for a particular campaign which employs the most effective combination of these methods.

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<sup>22</sup> See Marion Harper, Jr., "Copy Testing Is Mechanized and Sterile for the Copy Writer," *Printers' Ink*, December 18, 1942, pp. 28-30.

## CHAPTER 12

### ADVERTISING MEDIA AND SALES PROMOTION RESEARCH

#### Analysis of Printed Media

While all information about the market which is obtained as a result of various marketing researches will help lay the foundation for the buying of advertising media, there are a number of special kinds of analysis used specifically to solve media problems. These methods apply to all forms of advertising media. However, since radio and television present such specialized research problems, the techniques applied in the appraisal of printed media will be discussed separately.

**Circulation Analyses.**—With the development of the Audit Bureau of Circulation, the problem of obtaining accurate data regarding the circulation of printed media has largely been solved. The work of the media analyst is now primarily that of breaking down circulation data on the basis of geographic areas and various market groupings which are most appropriate to the problem of a specific advertiser. This work is now done largely on a “coverage” basis, in which the proportion of population or families in different brackets covered by the circulation of a given printed medium or combination of media is determined. This is generally expressed in terms of messages delivered in a given market per hundred families.

There are still gaps in our knowledge of market coverage by certain types of media. The weekly newspaper field is an example. However, these gaps are being rapidly reduced.<sup>1</sup>

In addition to straight coverage analyses, a very useful device is the analysis of circulation against potential sales. Where a sound quantitative analysis is available, the circulations of various media can be related to potential sales by geographic areas, sales territories, or population groups. This type of study can be one of the most important forms of media analysis, for it insures against overspend-

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<sup>1</sup> See *Circulation Analysis of Weekly Newspapers*, Weekly Newspaper Bureau, 1947.



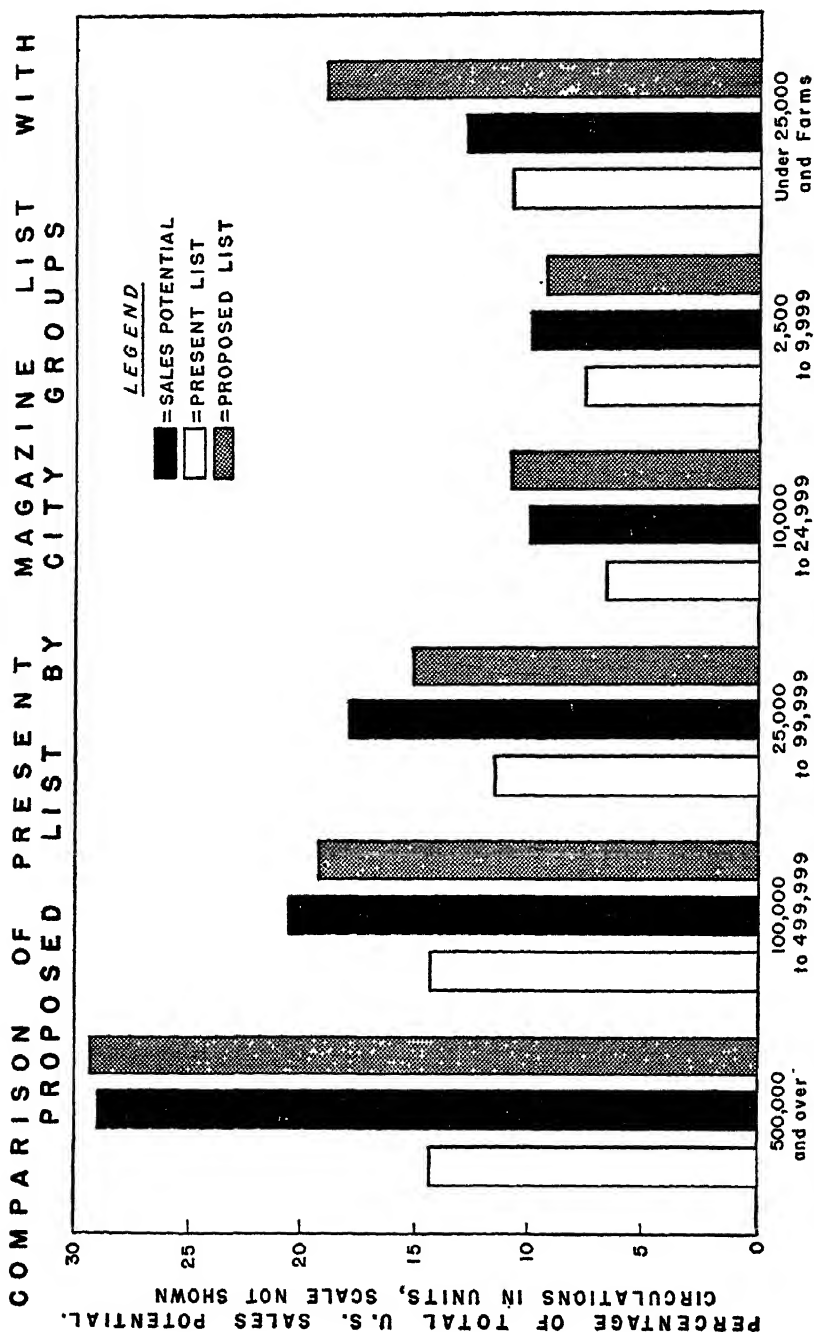


Figure 13. An Analysis of Magazine Circulation Against Potential Sales by Population Groups

ing or underspending in markets. Such analyses, made for campaigns which have not previously been planned in this manner, invariably show that the distribution of advertising dollars has been seriously out of balance with the market. For methods of establishing sales potential, see Chapter 9.

**Print Audience Measurement.**—For many years advertisers have not been satisfied with circulation data as the sole yardstick for buying advertising media. It has been clearly demonstrated that the number of readers of a given copy of a publication not only significantly exceeds circulation, but also varies from gross circulation figures as between various publications. An increasing amount of research has been applied in recent years to the measurement of actual reading audiences. While data are not sufficiently comprehensive to supplant circulation data as a basic measurement, techniques for measuring reading audiences are now sufficiently perfected so that these data are generally accepted and widely employed, especially in the magazine field.

The value of print audience measurement is shown by the following comparisons for six magazines:<sup>2</sup>

TABLE 26

Magazine	Total Circulation	Total Audience	Readers per Copy
Life.....	5,155,000	26,000,000	5.0
Saturday Evening Post.....	3,650,000	13,750,000	3.8
Collier's.....	2,750,000	11,100,000	4.0
Look.....	2,329,000	15,650,000	6.6
American.....	2,339,000	10,200,000	4.3
Cosmopolitan.....	2,105,000	8,150,000	3.9

The first type of audience data obtained shows the total reading audience of a given publication. The crudest type of measurement is the survey which asks for publications which a group of respondents read, sometimes with a check list. This method produces a great amount of distortion, overrating the "prestige" publications and likewise underrating certain publications which readers do not care to admit they read. The accepted method of obtaining audience data is on the basis of identification by the respondent of a specific issue of a magazine or newspaper which he has read. The reader is led

<sup>2</sup> *Continuing Magazine Audience Study*, Report No. 2, *Look* magazine, 1947.

QUESTION A: SHOW CARD: Have you looked through a copy of any of these magazines in the past six months, either at home or somewhere else like a friend's home or an office waiting room?		QUESTION B: SHOW KEY FOR EACH MAGAZINE CHECKED IN COL. 1 AND ASC. Do you happen to have read the particular name of _____?		QUESTION C: Do you remember having seen any of the items on this page? (If "YES" Which ones?) (If "NO" Skip to Question F)		QUESTION D: Because of similarity of photographs and/or illustrations appearing in different magazines, it is often difficult to be sure whether or not one has read a particular issue of a magazine. After looking at these items are you sure you have seen the name of _____, or aren't you certain about it?		QUESTION E: ASK ONLY FOR MAGAZINES CHECKED IN COL. 9: How did you get hold of this issue of _____? Did you see it in a waiting room, office or library? Was it passed on or lent to some one in your home? Or did you get it by mail, buy it at a newsstand?				
		Have Looked Through	Have Read Current Issue	Have Not Read Current Issue	ITEM					Have Seen Item	Not Sure	
		(1)	(2)	(3)	a	b	c	d	e	(9)	(10)	(11)
34. Successful Farming												
35. Time												
36. True Confessions												
37. True Story												
38. United States News												
39. Vogue												
40. Woman's Home Companion												

F. 1) What kind of work do you do? .....

2) In what industry or type of business do you work? .....

(Do NOT give firm name, e.g. Ford Co., but give type of business, e.g. automobile manufacturer.)

G. 1) What was the name of the last school you attended? .....

2) What was the last grade you completed in school? 8th grade or less .....

#### FOR OFFICE USE ONLY

1..... 21..... 41..... 61.....  
 2..... 22..... 42..... 62.....  
 3..... 23..... 43..... 63.....  
 4..... 24..... 44..... 64.....  
 5..... 25..... 45..... 65.....  
 6..... 26..... 46..... 66.....  
 7..... 27..... 47..... 67.....  
 8..... 28..... 48..... 68.....  
 9..... 29..... 49..... 69.....  
 10..... 30..... 50..... 70.....  
 11..... 31..... 51..... 71.....  
 12..... 32..... 52..... 72.....  
 13..... 33..... 53..... 73.....  
 14..... 34..... 54..... 74.....  
 15..... 35..... 55..... 75.....  
 16..... 36..... 56..... 76.....  
 17..... 37..... 57..... 77.....  
 18..... 38..... 58..... 78.....  
 19..... 39..... 59..... 79.....  
 20..... 40..... 60..... 80.....

1-3 years high school .....

4 years high school .....

1-3 years college .....

4 or more years college .....

#### CLASSIFICATION DATA

##### Marital Status:

##### Race:

Married..... White, apparently native .....

Single..... White, apparently foreign .....

Other..... Other.....

Sex: Male..... Age: .....

Female.....

Name.....

Address.....

Interviewer.....

Date.....

#### FOR OFFICE USE ONLY

Editing..... Checking.....

In..... Out.....

Date Received.....

Figure 14. Magazine Audience Research

One page from a questionnaire used to measure the number of individuals reading the current issue of 40 different magazines. This is the second page of the questionnaire, but note how the five basic questions are repeated at the top of the page, how instructions to investigators are placed on the form, and how identification and classification data are provided. (Courtesy Magazine Advertising Bureau)

through a copy of the publication and required to recall specific editorial items which he had read prior to the interview, or he is taken through a special kit which contains reproductions of enough selected editorial items to establish readership or nonreadership of a given issue. Even this procedure may produce an inflation or deflation from the true audience. Therefore, various devices, such as confusion control,<sup>3</sup> are employed to segregate "claimed readers" from "proven readers."

The most extensive work in print audience measurement has been done by the Magazine Audience Group. This group has conducted many tests to determine the accuracy of various methods of audience measurement. The procedure currently employed is reproduced below at some length because it describes clearly the problems involved in print audience measurement and certain solutions:

In past operations of this study, it was necessary to employ a technique known as "confusion control" for removing the exaggeration from people's answers to questions about magazines. This device involved making two sets of interviews. In one set people would be asked to leaf through a magazine and point out stories or articles or other items which they remembered having seen. A separate control set of interviews used the same questioning procedure, but the respondent was taken through a magazine which had not come out yet. A significant proportion of people thus interviewed with pre-publication copies claimed to have seen things they could not have seen. This proportion was used statistically to correct the answers obtained with older issues. The device undoubtedly helped to insure greater accuracy in the published figures but it was very cumbersome. With time to experiment, the Group supervised the design of a series of experimental questionnaires seeking to remove the exaggeration from people's answers at the source in one interview without the necessity of separate correction. This was done by analyzing the causes of exaggeration and varying the questioning procedure to counteract the causes.

The experiments seeking to counteract these causes resulted in the following sequence of questions:

*"We're making a study of magazine reading and we are interested in finding out what people think about certain magazines."* This introduction is designed to establish an opinion atmosphere in which people's attitudes can be as helpful as their reading.

*"Have you looked through a copy of any of these magazines in the last six months?"* The magazines listed are Collier's, Reader's Digest, Life, Ladies' Home Journal, Saturday Evening Post, Cosmopolitan. Inclusion of the three monthlies gives the booster the chance to channel his boasts in

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<sup>3</sup> See page 210. See also Alfred Politz, "Do Respondents Tell the Truth?" *Advertising and Selling*, May, 1947. This article discusses confusion-control techniques and other means of eliminating overclaiming or underclaiming.

directions harmless to the study. A person who claims to read one of the monthlies need not feel embarrassed at failing to read the weeklies.

*"What kinds of stories or articles do you like to look at or read in .....? Do you remember any recent stories or articles that appeared in .....?"* These questions, asked about each weekly which the person claims to have read or looked at in recent months, are designed to continue the opinion atmosphere and to make the interviewer and the respondent feel that the interview is constructive, regardless of how much or how little the respondent may read.

*"Sometimes similar pictures and articles appear in different issues of magazines and newspapers. Have you ever noticed that yourself?"* This question is designed simply to plant a caution in people's minds about the chances of being honestly confused.

*"Here is an issue of ..... which you may not have looked through yet. Will you leaf through it with me and give me your first impressions of which articles look interesting?"* Although the issue being shown is 4 weeks old, this question gives the respondent plenty of chance to say he has not seen it. The questioning in terms of interest is again designed to make the interview seem constructive regardless of the amount of reading.

*(For each item in the issue.) "Does this one look interesting? Is this the first time you've seen it?"* In order to claim reading the respondent must start out by saying "no" which is always harder to say than "yes." Furthermore, the questionnaire blank provides space to record the respondent's doubt or uncertainty about each item. If the respondent is not sure of having seen the item, or not sure where he saw it, he is not encouraged to guess.

*"Just to keep the record straight—are you sure you have or haven't seen this issue of ..... before or aren't you certain about it?"* This check-up is designed to catch any cases of doubt which did not appear in the foregoing questions, on individual items. *To be counted as a member of the audience, the respondent must express certainty of having seen the issue, in answering this question, as well as having seen at least one item in the issue during the detailed questioning.*

After the preliminary tests were completed, over six thousand more interviews were conducted using advance issues of the magazines. These large scale confusion tests, spread over a period of six months, showed that the new questioning method was producing, even in six thousand interviews, too few "confused" people to justify their utilization in any statistical analysis.<sup>4</sup>

Audience studies are applied to various types of advertising media. While special problems in measurement are involved, the method is used in connection with outdoor advertising. Studies are now under way to survey the difficult farm-magazine audience.<sup>5</sup>

<sup>4</sup> *Continuing Study of Magazine Audiences*, sponsored by Life magazine, Magazine Audience Group, Report No. 8, August 15, 1946, pp. 9-11.

<sup>5</sup> See *Outdoor Advertising*, Certified Public Appraisal Study No. 1, John Donnelly & Sons, 1947, and D. B. Lucas, "The Continuing Study of Farm Publications," *Printers' Ink*, March 5, 1948.

Newspapers also make audience studies, although not on a large scale. In time this type of analysis will undoubtedly be used to a much greater extent.

In addition to measuring the total audience of a publication, these studies generally make rather extensive breakdowns of the various classes of readers. Typical classifications include age, sex, income or economic status, and education. They may also include marital status, composition of household, employment, type and size of home, ownership or rental of home, and stability of residence.<sup>6</sup> By showing the comparative structure of the audiences of different media, these data are of great help to the individual advertiser.

**Analysis of Special Audiences.**—Various studies of publication reading by special groups are frequently of value in media analysis. Some advertisers are particularly anxious to reach specific marketing units, and even the most general advertisers plan their campaigns so that special efforts are directed to particular segments of the market. Examples of analyses of special audiences are the following:

"Young Women and Magazines," for *Good Housekeeping* magazine.

A study of the reading of 26 magazines by women from sixteen to thirty-five years of age.

"Reading Preferences of Prominent Architects," for *Architectural Forum*. Based on interviews with 539 architects in 79 metropolitan areas.

"A Study of Magazine Reading and Preferences Among New Home Building Families," for Meredith Publishing Company. Based on mailing of 4,500 questionnaires to families who had recently let home-building contracts.

"A Survey of the Readership Habits of Bank Presidents in Chicago and Nearby Areas," by Dun & Bradstreet.

From the point of view of the national advertiser, the measurement of local audiences is frequently important. Sometimes key markets call for particularly fine analysis, in order to insure adequate coverage in vital areas.<sup>7</sup> At other times some broad group of local markets, such as the small-town market, is analyzed to determine whether special coverage of this market is necessary to round out the advertising program.

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<sup>6</sup> *The Collier's Market—A Qualitative Survey*, New York, Crowell-Collier Publishing Co., 1946.

<sup>7</sup> See *Washington, D.C., Newspaper Reader Survey*, New York, American Association of Advertising Agencies, 1947.

An interesting approach to the analysis of local market audiences by projections from national studies has been developed by Franzen.<sup>8</sup> He has constructed an estimating formula, based on analysis of sample areas, which shows that audiences for magazines vary systematically according to four characteristics :

1. Ratio of subscription to newsstand sales.
2. Size of local community.
3. Concentration of population.
4. Percentage of population with high school education.

**Qualitative Media Appraisal.**—In addition to knowledge regarding circulation and audience, the advertiser is particularly anxious to obtain facts regarding the quality of a given advertising medium as a vehicle for the advertising message. Measurements of quality are made in many different ways, and the development of new techniques is constantly sought, for this aspect of media selection is fraught with personal opinions and prejudices and is difficult to bring under factual measurement. A number of techniques, however, are now available which are of considerable help in taking the qualitative appraisal of a publication out of the realm of guesswork.

**BUYING AND USAGE.**—An ideal measurement of the quality of an advertising medium is the extent to which a particular commodity is bought by the typical reader or reader-family. Consumer purchase panels have been employed in an effort to produce such a measurement, but the methods of obtaining audience data are too inadequate. A study conducted by the author several years ago showed that, because of the duplication of printed media, no one medium offered a large, exclusive audience. The result was that it was impossible to discover any correlation between the amount of advertising inserted in a publication for a particular product and the percentage of readers using the product.

The closest approximation to such a measurement is based on the proportion of readers who use a particular product. This type of analysis should be made on a much larger scale than at present, as it provides the advertiser with accurate knowledge of the number of prospects among the readers of a given publication. Manville has developed a particular device for this measurement, which he calls the audited "customer quotient." As a result of considerable experimentation he has demonstrated that the number of prospects

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<sup>8</sup> See "Good Housekeeping's New Technique for Counting Readers per Area," *Printers' Ink*, March 7, 1947.

for a given product among the readers of various publications differs significantly, and the measurement of this factor provides a useful appraisal of the qualitative value of a publication.<sup>9</sup> By correlating these data with readership for specific advertisements, a further refinement is possible.

An extension of audience research is the analysis of readers of a publication by the usage or possession of commodities. These studies are made from time to time by advertising media, primarily to demonstrate the extent of the market reached for specific products. Illustrations are the use of phonograph records, cereals, and tobacco products by readers of particular publications.<sup>10</sup>

It is important in these studies to distinguish between the buying of a commodity and the use of a commodity by the readers of a particular medium. High usage may reflect a high degree of saturation, which may make for less actual buying of the commodity than would be found among the audience of another medium of a similar type, but which on the other hand has much lower usage. In the case of durable consumer goods, this consideration is particularly important.

MEASUREMENTS OF READING INTEREST.—Another form of qualitative appraisal is audience research to determine the degree of interest which readers have in various publications. One study, for example, questioned female readers between the ages of sixteen and thirty-five to determine which of 26 magazines were "read regularly," which were rated "most interesting," and which were considered "most useful."<sup>11</sup>

Applying direct quantitative measurements in order to obtain qualitative appraisals, some studies measure the amount of time spent in reading a publication or the amount of editorial content read in individual issues by individual readers. Approximations of the time factor are often obtained by measuring the so-called life of a publication, that is, the time period over which the reading of a publication is spread. Certain publications are kept by readers for a much longer period of time than are others, affording greater opportunity for rereading or greater pass-along circulation, thus increasing the advertiser's opportunity to impress a larger audience.

Analysis of the type of editorial content read in specific publications and the use to which it is put provides a further basis for qualitative measurement. One magazine, for example, asked its readers

<sup>9</sup> See "Customer Quotients," *Tide*, February 13, 1948, p. 70.

<sup>10</sup> See *Brand Preference of Young America*, Report No. 2, National Comics Group, 1947; *Tuning In on Collier's Homes and The Collier's Market for Cigarettes, Cigars, Tobacco and Accessories*, New York, Crowell-Collier Publishing Co., 1947.

<sup>11</sup> "Young Women and Magazines," *Good Housekeeping*, 1948.



which editorial features they preferred, which feature writers in different publications they preferred, and whether they clipped the magazine. The analysis of "clipping" was particularly enlightening, for it showed the extent to which readers clipped and saved recipes and other items gleaned from the magazine.<sup>12</sup>

**Analysis of Advertising Audience.**—Studies of magazine audiences show the number and kind of readers reached by a given publication. Media analysis may be carried one step further to measure the number of readers of *advertising* within the magazine. This may be done in terms of all advertising, advertising of a particular product class, or the advertisements of an individual advertiser.

Studies of the general advertising audience of a publication are based on readership of advertisements, which are projected against total circulation or total reading audience of the publication to obtain the total advertising audience. These data may then be analyzed further in terms of the cost of advertising space, to arrive at an estimate of readers per dollar. The following data show part of the results of one such analysis:

TABLE 27

Magazine	Total Readers	Advertising Audience (4-color)	Audience per Dollar
A.....	4,269,281	1,080,128	158
B.....	2,518,394	1,631,919	286
C.....	3,869,510	1,478,153	123

This study shows the value of going beyond total audience analysis, for the tendency to read advertising varies significantly between publications. It also indicates the importance of considering advertising rates in any media analysis.

Analyses of advertising audiences must be conducted with extreme care. In the first place, available readership data on advertisements are extremely shaky. In the second place, the readership of advertisements varies greatly by the class of product being advertised. For example, readership by women of food advertising, which deals with a daily problem, is much higher than readership of advertising for household appliances. Various publications carry differing

<sup>12</sup> "The Importance of the Family Circle Magazine to Its Readers," Parts I and II, *Family Circle*, 1945.

amounts of advertising for various products, so a gross, over-all analysis has extremely limited value.<sup>13</sup>

A special kind of analysis of advertising value was a study which compared the female audience of advertisements in general magazines and in women's magazines. This study revealed some startling facts about the audience an advertiser in certain lines could expect in various publications if his primary market was female.

**Analyses of Advertising Lineage.**—Partly because of tradition, but also because of a pragmatic belief that the amount of advertising placed in an individual medium reflects the power of that medium to sell merchandise, most space-buyers give considerable weight to the amount of advertising lineage carried by a given publication. Careful study of lineage, which breaks it down into significant classes of products and measures trends in growth or decline, can make the application of this yardstick for space-buying very useful.

**Advertising Budgets, Lists and Schedules.**—The determination of the size of the total advertising budget and its distribution among various media and insertions rests largely on business judgment and certain rule-of-thumb principles. However, research is being increasingly employed to serve as a guide for executive judgment.

So far as the total budget is concerned, it is generally necessary to rely upon some standard ratio to anticipated sales. However, interesting and useful studies of the effectiveness of varying expenditures are now being made. One such study correlates the amount of consumer purchases with the amount of advertising exposure, and shows that certain families are "overexposed" and others "underexposed." The optimum quantity of advertising in terms of the number of exposures is computed by equating marginal revenue with marginal costs.<sup>14</sup> The more common form of research to provide a guide to total budgets is the *concentration* or *ceiling* test. In applying this research, selected markets are deliberately given more than normal advertising pressure. The amount of sales produced then becomes the yardstick for determining the profitability of various amounts of advertising.

After the total appropriation has been set, a knotty problem is the distribution among various advertising media, such as radio, magazines, and newspapers. Here the analysis of the individual

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<sup>13</sup> For a general analysis by product classes, see Hans Zeisel and Virginia Epes Harper, "The Advertising Value of Different Magazines," *Journal of Marketing*, July, 1948, pp. 56-60.

<sup>14</sup> Harry V. Roberts, "The Measurement of Advertising Results," *Journal of Business of the University of Chicago*, July, 1947.

advertiser's experience is most valuable. In addition, research studies which show the total audience reached by a particular type of medium are available. One study shows the total audience reached by magazines as a medium, as indicated below:<sup>15</sup>

TABLE 28  
NUMBER OF MAGAZINES READ BY MAGAZINE READERS

	Total Readers
Read 1 magazine.....	13,250,000
Read 2 magazines.....	11,900,000
Read 3 magazines.....	10,950,000
Read 4 magazines.....	8,250,000
Read 5 magazines.....	6,100,000
Read 6 magazines.....	4,900,000
Read more than 6 magazines.....	16,200,000
Total readers.....	71,550,000

One of the breakdowns in the study shows the manner in which the qualitative distribution of the audience of a major medium may be analyzed:

TABLE 29  
ECONOMIC STATUS OF MAGAZINE READERS AND NONREADERS

This table reads: "Of the magazine readers, 3.0% were prosperous individuals; of the nonreaders, 0.7% were prosperous individuals."

	Readers		Nonreaders		Total	
	Num-ber	Per Cent	Num-ber	Per Cent	Num-ber	Per Cent
A Group—Prosperous.....	168	3.1	17	0.7	185	2.3
B Group—Upper Middle.....	955	17.3	152	6.1	1,107	13.8
C Group—Middle.....	3,253	58.9	1,094	43.9	4,347	54.3
D Group—Lower.....	1,144	20.7	1,227	49.3	2,371	29.6
Total.....	5,520	100.0	2,490	100.0	8,010	100.0

Because of the necessity of demonstrating the size of its audience to advertisers, radio has conducted a great deal of research in this field. The most comprehensive surveys are those conducted periodically by the Columbia Broadcasting System and the Broadcast Measurement Bureau. These surveys report the number of radio families

<sup>15</sup> *Nationwide Magazine Audience Survey*, Magazine Advertising Bureau, 1948, Report No. 1, p. 15, and Report No. 2, p. 24.

and provide detailed breakdowns by geographic areas, markets, and population groups.<sup>16</sup> Transportation (car card) and other major types provide research designed to measure the value of each medium.<sup>17</sup>

The obvious difficulty with such research is that no comparisons are made between different media, with the result that there is no common denominator. While the studies are all of interest, the lack of comparative data keeps research from playing a more important part in the allocation of the advertising budget to major media types.

One of the key problems in building media lists is that of duplication. Most advertisers wish to construct their programs so that the maximum number of new readers or listeners will be added, rather than to repeat messages to the same group of prospects. Accordingly, various combinations of media are analyzed to show the amount of audience gained by the different possible combinations. The following table shows the result of an analysis of audiences for four national magazines:<sup>18</sup>

TABLE 30  
AUDIENCE GAINED BY COMBINED USE

	Per Cent	Audience
Read <i>Collier's</i> .....	8.9	10,341,000
Read <i>Life</i> .....	23.8	27,572,000
Read <i>Look</i> .....	15.1	17,439,000
Read <i>Post</i> .....	13.6	15,702,000
Total reading <i>Collier's</i> or <i>Life</i> or both.....	29.4	34,045,000
Total reading <i>Collier's</i> or <i>Look</i> or both.....	21.2	24,596,000
Total reading <i>Collier's</i> or <i>Post</i> or both.....	19.6	22,720,000
Total reading <i>Life</i> or <i>Look</i> or both.....	31.7	36,720,000
Total reading <i>Life</i> or <i>Post</i> or both.....	30.9	35,805,000
Total reading <i>Look</i> or <i>Post</i> or both.....	24.6	28,487,000
Total reading <i>Collier's</i> , <i>Life</i> , or <i>Look</i> or any two or all three.....	35.6	41,248,000
Total reading <i>Collier's</i> , <i>Life</i> , or <i>Post</i> or any two or all three.....	34.5	39,986,000
Total reading <i>Collier's</i> , <i>Look</i> , or <i>Post</i> or any two or all three.....	28.8	33,362,000
Total reading <i>Life</i> , <i>Look</i> , or <i>Post</i> or any two or all three.....	37.5	43,471,000
Total reading one or more of the four.....	40.3	46,702,000

<sup>16</sup> *Radio Ownership and Total Listening*, Columbia Broadcasting System, 1947, and *Radio Families—U.S.A.*, 1946, Broadcast Measurement Bureau, September, 1946.

<sup>17</sup> A. W. Lehman, "How Effective Is Transportation Advertising?" *Advertising and Selling*, August, 1946.

<sup>18</sup> 1948 *Magazine Audience Group Study*, Magazine Audience Group, p. 18.

In connection with duplication studies, methods of incremental analysis have made it possible to estimate the additional audiences obtainable by inserting advertisements in two, three, or four consecutive issues of the same magazine, as well as to estimate the audience gained by adding magazines to a list. These studies have shown that a larger number of new readers are reached by adding another magazine to the campaign rather than by adding another issue of a given combination of magazines.<sup>19</sup>

The Advertising Research Foundation is sponsoring an exhaustive study designed to provide more data on duplication as well as on basic audiences. The objectives of this study are to determine:

1. The total audience of each magazine.
2. Total audience accumulated by successive issues of each magazine.
3. Total and duplicated audiences reached by concurrent issues of combinations of two or more magazines.
4. Automobile, appliance, and other ownership by magazine audiences.
5. Breakdowns of above data in detail by geographic area, etc.

Printed media research also concerns itself with a number of specific problems in connection with the scheduling of advertising. Typical considerations are the size of advertisements, frequency of insertion, use of color, timing of the insertions, and position in the publication. Readership and audience data are employed primarily for such studies. It has been shown that the efficiency of advertising can be greatly increased by carefully relating the size of the advertisement to number of readers obtained at a given cost in order to determine the optimum size. The selection of the day of the week on which to make newspaper insertions is another example of a field in which readership data have been employed to assist in scheduling. The relationship of the advertising audience to the number of pages of an individual issue, as well as to the position within the issue or on the page, is a further example of media research which provides important facts to guide the space-buyer in his scheduling decisions.<sup>20</sup>

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<sup>19</sup> Seymour Banks, "The Use of Incremental Analysis in the Selection of Advertising Media," *Journal of Business*, October, 1946.

<sup>20</sup> See *The Continuing Study of Newspaper Reading: First 6 Day Study*, Study Nos. 80-85, Advertising Research Foundation, 1945, and Carroll I. Johnson, "Is Individual Page Performance Influenced by the Number of Magazine Pages?" *Printers' Ink*, November 21, 1947.

### Editorial Research

In order to build circulations and advertising value, advertising media have adopted marketing research methods to provide a foundation for editorial policy. The methods used are chiefly studies of editorial readership and consumer surveys, similar to the product research studies described in Chapter 3. These studies may show the failure of a sports editor to appeal effectively to potential readers, may analyze the effectiveness of various types of illustrations, or may consist of a comprehensive research providing a complete basis for editorial policy.

This type of research is conducted continuously by the *Saturday Evening Post*:

Looking ahead now, *Post* officials say in effect: never again will there be a Great Brain who thinks he knows what the public wants. Nothing is to be taken for granted. Every two weeks researchers of the Curtis Publishing Co. Division of Public Opinion determine the pulling power of each article, story, poem, illustration and cartoon—and inform the editors. The editors still rely on their own sense of balance. The public isn't running them. But the public does guide them.<sup>21</sup>

When a new magazine or other medium is established, research has an unusual opportunity to play a significant part. While general editorial ideas are established, the value of proposed characteristics and the specific make-up of the planned publication can be determined largely on the basis of research. This approach was employed thoroughly in the case of *Holiday* magazine.<sup>22</sup>

Radio editorial policy also employs consumer research extensively. Panels of typical listeners are brought into studios, where they listen to live or recorded broadcasts of radio programs and record their reaction to them. One method employs the so-called "program-analyzer," which is a mechanical device by which individual audience participants can record parts of the program they like and parts they dislike by turning a lever or by pushing buttons held in each hand. In another method test subjects mark "good," "fair," or "poor" on tally cards and later discuss their specific likes and dislikes orally.<sup>23</sup>

Newspapers were the first to make readership studies as a basis for editorial policy. Today leading newspapers have research de-

<sup>21</sup> *Kiplinger Magazine*, April, 1948, p. 19. See also Herbert C. Ludeke, *The Role of Research in the Editorial Reconversion Problems of the Saturday Evening Post*, Report No. 92, Curtis Publishing Co., October, 1947.

<sup>22</sup> Donald M. Hobart, "Planning a Holiday," *Journal of Marketing*, July, 1947, pp. 47-52.

<sup>23</sup> "N.B.C. Pre-Tests Programs," *Advertising and Selling*, October, 1946.

partments which conduct an extensive program of studies to guide editorial judgment. The following table shows the results of one analysis of the audience obtained by various editorial techniques:<sup>24</sup>

TABLE 31

Technique	Index of Reader Attention
Humor panels .....	459
Aunt Het—Poor Pa (1 column) .....	393
Comic strips .....	272
News photo .....	177
Dominant photo .....	121
All type .....	98
Dominant art .....	73
Incidental photo or art .....	61
Sports cartoon .....	53
Continuity panels .....	49

To illustrate the breadth of the use of marketing research methods as a foundation for newspaper editorial policy and techniques, the following outline of services which an editorial research department should provide is shown:<sup>25</sup>

(a) Public opinion research to find what the readers of the paper are thinking and what their reactions are to the daily news offered by the paper. Striking differences in opinions of readers of competing papers in the same community would undoubtedly be found.

(b) Readership studies to determine which features have reader appeal, and whether or not the methods of presenting the news are really holding the reader's interest, and to determine desirable changes.

(c) Factual studies of the community—growth, unemployment, housing needs, living conditions, crime conditions, and needed community improvements. Such studies should also have some interest to the advertising department.

(d) Analysis of problems in the news (and opinions on them) such as strikes, social security, international peace organization, veterans' problems, and universal military training. Such studies could guide editorial policies.

(e) Analysis of the readability of news and editorial writing. Studies of this type have been made by some newspapers and by U.P. and A.P.

<sup>24</sup> Alfred B. Stanford, "What Makes Newspaper Ads Pull," *Advertising and Selling*, September, 1946.

<sup>25</sup> Vergil D. Reed, "Promotion and Research," *Journal of Marketing*, April, 1946, pp. 368-369. See also Wesley Hughes, "Vox Pop Can Pilot Your Paper," *Journal of Marketing*, April, 1947, pp. 371-376.

## Radio Research

The most extensive research in connection with radio as an advertising medium is the measurement of listening audiences. The following methods are commonly employed:

1. Listening-habit surveys.
2. The recall method.
3. The radio roster method.
4. Coincidental telephone surveys.
5. The audimeter.

**Listening-Habit Surveys.**—In the listening-habit survey the respondent is asked to report the radio stations or programs he listens to regularly or occasionally. Although the technique has many variations, its distinctive characteristic is that it employs the survey method and the respondent generalizes in his responses. This method is obviously subject to a considerable reporting error, but its simplicity makes it adaptable to large national surveys of the listening audience. It is the method applied by the Broadcast Measurement Bureau, which reports station audiences for all counties and about 1,000 cities, with breakdowns of day and night listening and various summaries for the entire United States and regions.<sup>28</sup>

**The Recall Method.**—The recall method obtains its data through listener surveys in which the respondent is asked to report the specific radio programs he heard during a specified period of time previous to the interview. Generally speaking, the radio day is divided into three units—morning, afternoon, and evening—on the assumption that each represents a time span over which the respondent can recall programs to which he listened. This method tends to produce inflation, particularly as regards well-established and very popular programs. It has the advantage of making it relatively easy to obtain an accurate cross-section of the listening audience through personal interviews and to obtain vital corollary data regarding the listening audience.

**The Radio Roster Method.**—In the radio roster method, the respondent is first given a list of radio programs which he could have heard in his locality during a specified period and is then asked to indicate which programs he actually heard. A variation is to present a selected list of programs and ask which programs were heard over

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<sup>28</sup> See *Radio Families—U.S.A., 1946*, New York, Broadcast Measurement Bureau, September, 1946.



a longer period of time. Another variation is to leave a diary form with the respondent, which he fills out from day to day, recording his radio listening over a period of time.

The advantage of this method is that, by listing all programs being studied, it stimulates the respondent's memory and avoids the omissions of programs which would not occur to the respondent in a listening-habit survey or by the open recall method. The results are obviously subject to inflation and inaccuracies in reporting, but there are many occasions when it is valuable, particularly with a new program or when a spot check of a limited segment of the market is required. It also has the advantage of making it possible to obtain corollary information regarding the respondent. Furthermore, it provides a relatively inexpensive method of obtaining a broad sample, particularly in rural areas.

**Coincidental Telephone Surveys.**—In the coincidental telephone survey, investigators call telephone subscribers according to a predetermined sampling pattern. The number of "not at homes" is recorded. When a telephone is answered, the respondent is asked if the radio is on at that moment, and if so what program or station is being heard. An added feature of the C. E. Hooper Service, which provides syndicated coincidental ratings, is that, after identifying a program, the respondent is asked if he knows what product is being advertised. Thus the method provides a measurement of sponsor identification. It also provides more accurate data than other survey methods, since it eliminates the necessity for memory and is based on a report of actual listening, rather than evidence that the radio set was operating.

The coincidental telephone method has two weaknesses. First, it is limited to telephone homes. Since only a small proportion of families possess telephones, this is a highly selective and unrepresentative sample of middle- and upper-income groups. Second, the coincidental rating covers only an instant of the broadcasting period for any one subject. As a result, since there is a considerable turnover of listeners during the time a broadcast is on the air, the method tends to understate the total audience.

The Hooper service properly does not claim that its program ratings measure the total audience of radio programs, but rather that they provide a limited index of relative audience size. Since their interviewing covers all cities in which outlets of the chain broadcasting systems are located and comprehensive biweekly reports are issued, this service is the one most generally used at present.

# HOOPER RATINGS ON TUESDAY EVENING, FEBRUARY 15, 1949

NYT	36 City Sets-in- Use	ABC		CBS		MBS		NBC		Non Network Radio	TV* Rating
		Rating	Sets Share	Rating	Sets Share	Rating	Sets Share	Rating	Sets Share		
6:00 PM	23.3	4.8†		ERIC SEVAREID-IN Met. Life (11) (MTWTF)		2.5†		News-Bob Warren		4.1	0.5
	-0.3			4.6 (23.3 19.6)		0.0		5.7†		-0.9	-1.4
6:15	23.4	3.8†		You & Business		4.0†		Sketches-Melody		5.4	1.0
	-0.6	-0.3		5.2† Outlook		+0.4		4.0†		+0.2	-0.1
6:30	22.7	4.7†		You & Business		3.0†		Sketches-Melody		4.5	1.2
	-5.7	-1.2		4.5† Outlook		-1.1		4.8†		-2.4	+0.4
6:45	25.2	4.1†		LOWELL THOMAS		3.0†		THREE STAR EXTRA-IN		4.0	1.3
	-3.9	-1.5		P&G (35-r) MTP4-11:00		-1.0		4.0 (27.0 14.9)		+0.3	+0.1
7:00	26.0	EDWIN C. HILL 2.0		BEILAH		Fulton Lewis		SUPPER CLUB		3.3	0.7
	-7.6	Headline Edition 2.5†		P&G (32H-r5-pn)		3.7†		Lig. My. (34H-r6-pn)		0.0	-0.4
7:15	29.2	Elmer Davis		JACK SMITH		+0.3		10.4 (29.8 36.8)			
	-6.1	4.1† Co-op		P&G (32H-r5-pn)				-0.3 (-5.2 +8.2)			
7:30	32.5	COUNTERSPY		CLUB 15		Dinner Date		NEWS OF THE WORLD		3.8	1.6
	-1.0	Pepsi-Cola (36N-r9-pn)		Campbell (35H)		5.3†		Miles (35-r5-pn)		-0.4	+0.4
7:45	32.4	9.9 (35.7 27.8)		EDWARD MURROW		-0.5		+1.1 (-3.5 +4.9)			
	-5.3	-0.7 (-2.6 +0.2)		Campbell (36N)		News Comment		Dardanelle Trio		3.2	1.8
8:00	33.9	Youth Asks The		MYSTERY THEATRE		2.5†		5.5†		+0.6	0.0
	-2.3	3.9† Government		Sterling		-0.9		0.4			
8:15	39.1	Earl Godwin		(35N) (rP4-12:00)		George O'Hanlan		THIS IS YOUR LIFE		2.8	3.6
	-0.3	3.2†		15.3 (38.2 40.0)		2.1†		Philip Morris		-0.4	+0.3
8:30	40.9	Am. Town Meeting		MR. & MRS. NORTH		-0.8		(36H) (rMTP4-11:30)			
	+3.2	Co-op - pn		(36N) (rP4-11:30)		George O'Hanlan		10.7 (38.7 27.7)		4.6	2.7
8:45	40.3	4.1† (43.8 9.3)		13.1 (41.4 31.6)		3.1†		10.7 (-3.0 +3.6)		+2.0	-1.9
	-0.9	+0.4 (+3.3 0.0)		-2.0 (-0.9 -4.0)		+0.2					
9:00	44.1	(+1.0)†		WE, THE PEOPLE		Official Detective		ALAN YOUNG		4.1	4.0
	+4.9			Gulf Oil		3.2†		(36H)		+0.4	+1.4
9:15	40.0			(27N)		-0.9					
	-1.3			10.4 (43.5 23.8)		Official Detective		12.5 (40.6 30.7)		3.0	3.6
9:30	41.2	EDWIN D. CANHAM		Morey Amsterdam		5.3†		+1.1 (+1.2 +1.8)		-0.8	-0.5
	+2.5	Chr. Sci. (36N-r7-pn)		5.4†		+2.5					
9:45	42.8	Detroit Symphony		5.4†		GABRIEL HEATTER		BOB HOPE		2.4	2.4
	+2.4	1.1†		+0.7		Serutan (30)		Swan Soap		+1.2	+0.9
10:00	36.2	Detroit Symphony		HIT THE JACKPOT		4.1 (43.1 9.8)		(36H)			
	-0.6	3.1†		DeSoto-Plymouth		-1.4 (-4.2 -4.4)					
10:15	37.2	Detroit Symphony		(36N)		Mutual Newsreel		21.0 (42.0 50.0)		2.3	2.2
	-1.0	2.3†		10.3 (36.7 28.0)		2.8† Co-op		-0.3 (+1.8 -3.0)		+0.4	-1.7
10:30	34.2	It's In The Family		-0.3 (-0.8 -0.2)		+0.5					
	+3.8	1.6†		Mr. & Mrs. Jane		Air Force Hour		F. MCGEE & MOLLY		2.5	3.8
10:45	28.3	It's Your Business		3.4†		1.8†		S.C. Johnson Co.		-0.5	+2.3
	-0.7	1.4†		-0.7		-0.8		(36H)			

36-City—Per cent of total sample (100% of homes called) found with at least one set in use. May include TV homes.

Rating—Measurement in which base, 100%, is total homes called. Sum of ratings for any time period equals sets-in-use.

Sets—Figure under any network head means sets-in-use at time of this particular broadcast and may vary from 36-City Sets-in-Use in cases of rebroadcasts or repeats or limited network.

Share—Sum of the shares equals 100% of the sets-in-use.

Figure 15. A Radio Audience Report

The illustration reproduces a page from a report of the C. E. Hooper Rating Service. The basic Hoopering shows the percentage of total homes called during a sample broadcasting period who report listening to each broadcast.

**The Audimeter.**—The audimeter is a mechanical device attached to a radio receiving set, which automatically records, when the set is in use, the station to which it is tuned. A variety of designs have been developed, and constant improvements which reduce the cost of operating and servicing the units are being made. The most extensive use of the audimeter is in the Nielsen Radio Index Service, which also provides pantry inventories of products advertised on radio networks. Since cooperating homes are in effect a panel, detailed information about the various families in the audimeter sample is obtained, making it possible to break down radio audience data by product usage by various types of consuming families.

One advantage of the audimeter is that it is a mechanical device which eliminates the use of interviewers in recording the raw data and the reporting by respondents, hence is less likely to human error. Another advantage is that, since it makes a continuous record of radio usage by individual families, it yields data which can be broken down in many different ways to produce a variety of measurements which are useful in determining radio policy. One example is the minute-by-minute variation of the listening audience from the beginning of the program to the end. With the audimeter it is possible to measure the actual audience listening to commercials, the flow in and out of the audience between programs, and the accumulated audience over a period of time. The list in Table 32 shows the completeness of data available from audimeter analysis.<sup>27</sup>

There are serious disadvantages to the use of the radio audimeter as a basis for measuring radio audiences. The chief disadvantage is the high cost of the mechanical units, their servicing, and the machinery of analysis. As a result of these high costs, there is a constant temptation to work with inadequate samples and, because of the accuracy of the raw data, to draw sweeping conclusions which may not be justified statistically by the actual data on which they are based. The fact that there are so many possible breakdowns of audimeter data also presents the temptation to analyze the data beyond the point justified by the adequacy of the sample. An example of this latter point is that too often positive conclusions, based on data from a few broadcasts, are drawn regarding the effectiveness of the commercial or the talent itself from the minute-by-minute record of audience size. Another disadvantage is that audimeter data do not actually measure listening, but rather the period of time during which a set is tuned in. It has been contended that many

<sup>27</sup> *Nielsen Researcher*, May, 1947, p. 20. See also Arthur C. Nielsen, "Advances in Marketing Research," Eighteenth Boston Conference on Distribution, 1946, p. 95.

TABLE 32  
TYPES OF INFORMATION FURNISHED  
BY NIELSEN RADIO INDEX \*

<ol style="list-style-type: none"> <li>1. Homes Using Radio:               <ol style="list-style-type: none"> <li>a. By Months and Seasons</li> <li>b. By Days of the Week</li> <li>c. By Quarter-Hours</li> <li>d. By City Size</li> <li>e. By Time Zone</li> <li>f. By Income Class</li> </ol> </li> <li>2. Audience Size:               <ol style="list-style-type: none"> <li>a. Average Audience</li> <li>b. Total Audience</li> <li>c. Six-Minute Audience</li> <li>d. Full-Coverage Audience</li> <li>e. Commercial Audience</li> <li>f. Cumulative Audience</li> </ol> </li> <li>3. Audience Type:               <ol style="list-style-type: none"> <li>a. By Territory and Time Zone</li> <li>b. By City Size</li> <li>c. By Income Class</li> <li>d. By Use of the Brand</li> <li>e. By Use of the Commodity **</li> <li>f. By Education, Children, Age, etc.**</li> </ol> </li> <li>4. Minute-by-Minute Audience</li> <li>5. Audience Flow:               <ol style="list-style-type: none"> <li>a. Sets Turned On or Off</li> <li>b. Competing Programs</li> <li>c. Adjacent Programs</li> </ol> </li> <li>6. Holding Power</li> <li>7. Holding Power Analysis</li> <li>8. Turnover (1, 2, &amp; 4 wks.)</li> <li>9. Frequency of Listening (1, 2, &amp; 4 wks.)</li> <li>10. Duplication Between Programs **</li> </ol>	<ol style="list-style-type: none"> <li>11. Coverage Factor</li> <li>12. Homes per Radio Dollar</li> <li>13. Share of Audience</li> <li>14. Audience for Network Sustainers **</li> <li>15. Network Audience—Each Unsponsored Quarter-Hour</li> <li>16. Audience for Large Non-network Programs **</li> <li>17. Audience for Spot Announcements **</li> <li>18. Station Audience and Other Data:               <ol style="list-style-type: none"> <li>a. New York Primary Area</li> <li>b. Chicago Primary Area</li> <li>c. Los Angeles Primary Area</li> </ol> </li> <li>19. Program Testing Facilities:               <ol style="list-style-type: none"> <li>a. New York Primary Area</li> <li>b. Chicago Primary Area</li> <li>c. Los Angeles Primary Area</li> </ol> </li> <li>20. Commodity Distribution:               <ol style="list-style-type: none"> <li>a. By Territory and Time Zone</li> <li>b. By City Size</li> <li>c. By Income Class</li> </ol> </li> <li>21. Brand Distribution:               <ol style="list-style-type: none"> <li>a. By Territory and Time Zone</li> <li>b. By City Size</li> <li>c. By Income Class</li> </ol> </li> <li>22. Continuous Brand Life</li> <li>23. Annual Consumption per User</li> <li>24. Special Reports **</li> </ol>
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\* Items 2 to 13 and 20 to 23 refer to sponsored network programs or the products advertised by such programs.

\*\* Available on Special Report basis.

families, for which heavy listening is imputed by the audimeter, actually may have turned on a set and forgotten it, or keep a set going without listening to the program.

An interesting development of the audimeter technique is the application of radar to the recording of radio programs heard in individual homes. For some time various methods of picking up a radio set in use have been known, but mechanical difficulties have

delayed the application of this technique to radio research. The Radox Monitor System is now in the process of being developed in the Philadelphia area. A simple transducer, which is relatively inexpensive, must be installed in each home to be reported. By means of a monitor board, installed in a truck, it can then be determined whether the set in a given home is in use, and, if so, to what station it is tuned. At the present time the checking is a manual dialing operation, but it is expected that this too will be made automatic in a short time.<sup>28</sup>

**Problems in Audience Research.**—The foregoing discussion of the methods of radio-audience research indicates many of the problems encountered in this field. There are other difficulties, one of which is the lack of a uniform concept of radio circulation itself. Various methods of audience research are based on differing definitions of "audience."<sup>29</sup> One of the difficulties arises in attempting to compare results of different measurements. Radio diaries, for example, have reported a relatively larger audience for larger stations than does the B.M.B. measurement, which does not reflect the greater average time spent in listening to the larger stations.<sup>30</sup>

Another difficulty is that audience measurement by telephone or audimeter is limited to radio sets or families rather than individuals. Both the recall method and the radio roster method have many weaknesses, but some adaptation is necessary to get at the actual listening of individuals, and to take into account "outside" listening in offices, automobiles, or on second and third home receivers.<sup>31</sup>

A special problem arises in connection with the measurement of audiences for spot radio announcements. This form of advertising has assumed a major role in the campaigns of some of the most successful advertisers, and an accurate measurement of their audiences is badly needed. In the past it has been assumed that the audience of a commercial spot announcement may be imputed from the audiences of the programs which precede and follow it. This assumption is unwarranted, and data on spot commercial audiences are now being taken directly. The recall procedure is employed; recordings of announcements are played and the respondent is asked to identify them. In an experimental study in St. Louis, conducted by Politz, a group of advertisers cooperated by broadcasting special

<sup>28</sup> See "Radox Report," *Tide*, January 23, 1948, p. 58.

<sup>29</sup> Lucien Warner, "What Is an Audience?" *Advertising and Selling*, July, August, and September, 1947.

<sup>30</sup> Hans Zeisel, "Coordinating the Measurements of Radio Listening," *Journal of the American Statistical Association*, December, 1947.

<sup>31</sup> James W. Seiler, "Ratings on Individual Basis Are Urged," *Broadcasting*, May 12, 1947.

spot announcements over one to three stations, from four to fifteen times per week. A pretest, consisting of recordings of spot commercials which respondents could not have heard, was made as a confusion control to provide a basis for discounting exaggeration in claimed listening. The net audiences reported in this study<sup>32</sup> are shown below. Note that both Vaseline and Tek commercials have smaller audiences reported for the second sampling than the first, which is theoretically impossible and presumably reflects errors in sampling.

TABLE 33  
SPOT COMMERCIAL AUDIENCES

Advertiser	Type	Net Audience	
		After One Month	After Two Months
Chesebrough Mfg. Co. (Vaseline Hair Tonic) .	Sing, talk, transcribed	345,000	326,000
General Mills (Pyequick) . . . . .	Sing, transcribed	382,000	525,000
Johnson & Johnson (Tek toothbrush) . . . . .	Live, talk	267,000	259,000
Paramount Pictures, Inc. ( <i>My Favorite Brunette</i> ) . . . . .	Talk, transcribed	357,000	513,000
Trans World Airlines . . . . .	Sing, talk, transcribed	345,000	531,000
W. F. Young, Inc. (Absorbine, Jr.) . . . . .	Sing, talk, transcribed	188,000	278,000
Brown & Williamson Tobacco Corp. (Kool cigarettes) . . . . .	Sing, talk, transcribed	446,000	463,000
Du Pont (Zerone) . . . . .	Live, talk	227,000	267,000

**Testing Radio Commercials.**—One of the most intriguing fields of radio research is testing radio commercials for their selling effectiveness. While a great deal of experimentation has been done in this field, the present body of knowledge is not nearly so complete as that for testing of printed copy.

Two methods are in most common use. The first is essentially a consumer-jury method, in which panels of typical radio listeners are brought together. Test commercials are played to this sample audience, and the members report their reaction to the commercials by mechanical devices or questionnaires.<sup>33</sup> While this method provides questionable evidence on the actual selling effectiveness of commercials, it has the special merit of developing a great deal of audience reaction information which is valuable in the construction

<sup>32</sup> *An Audience Measurement of Spot Radio Commercials*, Report No. 2, Edward Petry & Company, 1948. See also Alfred Politz, "Measuring the Size of Spot Commercial Audiences," *Printers' Ink*, April 11, 1947.

<sup>33</sup> See page 233.

of commercials themselves. The Scherwin Corporation has established a laboratory in Chicago for testing the effectiveness of commercials.<sup>34</sup>

A second device is recall or identification of commercials. Interviewers play sample recordings of commercials which respondents are asked to identify. By playing commercials which have not yet been broadcast, the confusion or exaggeration element is taken into account. Sometimes only parts of commercials are played, without any reference to product or sponsor, but containing key words or phrases reflecting the advertising theme. The respondent is then asked to identify the advertiser. This device, when applicable, has the advantage of determining specifically the penetration of the advertising message in the audience.

**Special Studies.**—Research is applied in a variety of special ways in connection with radio. Special studies of the potential listening audiences for particular time periods, such as the early morning hours, are an example. Another example is studies of reasons for nonlistening.<sup>35</sup> Still another example is a study of the popularity, or box-office value of radio talent.

### Sales Promotion Research

Special merchandising devices are extensively employed to accelerate the action produced by an advertising campaign, to stimulate local markets, to supplement the efforts of the salesman, or to counteract seasonal slumps. In some fields these promotional activities take on an importance equal to that of the general advertising campaign itself, or may even be the central theme around which a campaign is constructed.

Research is applied to sales promotion devices in a number of ways. It can be used to test or measure the efficiency of various forms, as follows:

1. Dealer displays—shelf, window, combinations of products, merchandising.
2. Deals—special prices, deals for consumers and for dealers.
3. Combination offers—products of same manufacturers or related product combinations.
4. Couponing—through media offers or house to house.
5. Premium offers—consumer and dealer premiums.

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<sup>34</sup> See "Testing Commercials," *Tide*, January 23, 1948, p. 56.

<sup>35</sup> See "Katz Surveys Non-Listening Causes," *Broadcasting*, January 12, 1948.

6. Sampling—type of sample offer, amount offered, method of distribution.
7. Cooperative advertising—local media.
8. Package devices—cut-outs, etc., to stimulate special sales.
9. Detailing—special demonstration calls to get cooperation of professional men, such as dentists and doctors.
10. Retail sales cooperation—clerk compensation for product push or “spiffs.”

**Development Research.**—One of the most useful forms of research on merchandising devices is employed during the development of a planned sales promotion activity. The results of past experiences, both of the advertiser himself and from any other available sources, are brought up to date and analyzed. As the merchandising campaign develops, the researcher works closely with those responsible to provide facts which will help in the basic decisions, such as:

1. What type of promotion would be most effective?
2. What particular form within this type?
3. What should be the character of the specific materials used?
4. When will the promotion be timely?

Research can make a very real contribution by providing relatively simple checks on the ideas for the promotion as they are being developed. For example, if a premium offer is contemplated, a number of premium possibilities are generally under consideration. Often the chief emphasis is on the development of some exciting new premium idea, which may differ so greatly from any used in the past that there is no experience to guide judgment as to consumer reaction to the offer. In such cases, a number of consumer-jury tests, made during the development stage, can be of great value. During the development stage, research is also used in a variety of special ways, such as investigating promotional ideas and surveying dealers to learn their attitude toward various methods.<sup>36</sup>

**Pretesting Promotions.**—A consumer-jury survey, employing essentially the same methods as those used in copy testing, provides a useful pretest base for a promotional idea. However, a great deal of money is usually spent on a promotion and the gamble taken that it will be competitively successful is so great that some more direct

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<sup>36</sup> See “What Store Display Material Will Food Dealers Use?” *Progressive Grocer*, June, 1947.



evidence of effectiveness is needed. This is supplied either by test campaigns in local markets or by controlled experiments.<sup>37</sup>

**Analyzing Results.**—The largest volume of promotion research is probably concerned with the analysis of the results of various devices. This can be done on a broad scale by the analysis of sales or consumer purchase data before, during, and after the promotional period. Where competitive sales data are available, the effect of a much larger number of promotions and the apparent effect of promotions of one manufacturer on the sales of another can be measured.<sup>38</sup>

The analysis of results cannot always be based on sales or purchase data, nor is it desirable to rely on such information exclusively. Sales data reflect the total impact of all competitive marketing activities, and therefore represent a complex out of which the single element of a promotion may or may not be extractable. Where factory shipments are relied upon as the source of sales data, they are particularly dangerous, as they may not accurately reflect the true results of the promotion. Counts of coupon returns by various classifications, surveys of repeat buying by consumers sampled, analyses of the effect of combination offers on sales of regular merchandise in selected types of outlets, and similar studies may also make significant contributions to the analysis of results.

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<sup>37</sup> See page 315.

<sup>38</sup> Arthur C. Nielsen, "Advances in Marketing Research," Eighteenth Boston Conference on Distribution, 1946, p. 91.

## CHAPTER 13

### PRICE AND MARKET TREND ANALYSIS

#### Price Analysis

Price is such a fundamental economic consideration that it should receive major emphasis in marketing research. Unfortunately, for a number of reasons, the application of marketing research to pricing problems has long been a rather neglected field.<sup>1</sup> With large-scale manufacturing and distribution, the manufacturer desires to match a uniform, mass-produced product with uniform pricing. Legislation designed to protect the interests of one special group or another tends to imply a standardization of prices which is unrealistic. The traditional approach to pricing is an internal cost approach, which fails to take into account the basic fact that prices are fundamentally established by market demands. Most manufacturers and dealers are also content to meet competitive pricing situations as they arise, generally aiming to be in line with competition rather than worrying too much about the effectiveness of their own pricing. Finally, one of the chief handicaps to scientific pricing is the failure of manufacturers and wholesalers to appreciate and measure the actual prices paid by consumers at the retail level in contrast to the theoretical price structure set up by the producer.

The importance of marketing research as a basis for determining pricing policies can scarcely be overestimated. It is almost universally recognized that, with given production facilities, the most important factor in determining prices in a competitive economy is the market demand for a product. But in actual practice most firms determine pricing policy primarily on the basis of the supply side of the equation. The common practice is to begin with direct manufacturing cost data and add indirect production cost, marketing cost, and a desired profit to arrive at the price to be placed upon a commodity. Only when demand suddenly shrinks to a point where the company consistently loses money or obtains only a very small sales volume, as during a period of depression, do most business executives

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<sup>1</sup> See F. L. Thomsen, "How Good Is Marketing Research?" *Harvard Business Review*, Summer, 1946.

give major attention to the determination of price from the point of view of what consumers are willing to pay.

This policy is unsound. While it is, of course, obvious that production cost must be taken into account in the final decision of price policies, the first facts which must be determined are the quantities buyers will take at different price levels. When these facts have been determined by a marketing research, they may be brought into relation with production cost at different volumes of output, and the price which will yield the maximum net profit determined.

Studies of the vast amount of price-policy data obtained by the O.P.A. during World War II show that cost-plus is the most common pricing practice in a wide variety of industries. This method—basing prices on costs plus a fair profit—is unrealistic because it ignores demand, the buyer's needs, and the buyer's ability to pay. It is, however, the easiest method to apply, which probably accounts in large measure for its universality. The vast majority of economists and marketing researchers regard this method as archaic.

The need for the greater application of marketing research to pricing problems has been summarized as follows:

In spite of the impressive advances made by market research in recent years, there is one field to which I feel that insufficient attention has been paid. That is research into prices and their effect on demand. Price policy is, to my mind, the Achilles heel of American marketing. The recent decline in sales of certain goods, notably clothing and frozen foods, suggests that there has been a tendency to ignore the elasticity of demand for these products.

I should say that the price policies of many manufacturers, particularly in the capital goods industries, are largely determined by cost plus intuition. The cost concept of price ignores the buyer's viewpoint and his ability to pay. It is possibly explained by the fact that top management is so often composed of production rather than marketing men.<sup>2</sup>

**Methods of Price Analysis.**—Marketing research may be employed as a basis for establishing price policies in several ways. The most useful methods embrace the following procedures:

1. General price research.
2. Analysis of price levels.
3. Price surveys.
4. Analysis of sales-price trends.
5. Controlled experiments.

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<sup>2</sup> Stuart G. Waterhouse, "An Englishman Looks at American Marketing and Distribution Policies," *Journal of Marketing*, January, 1948, pp. 307-308.

Generally a combination of these approaches is most effective. Any one approach is likely to overlook important factors or fail to provide the necessary data.

**General Price Research.**—Before beginning a detailed statistical analysis or setting up controlled experiments, it is usually desirable to conduct a general study of the price situation. A number of elements should be explored as a foundation for later research and taken into account in interpreting the results of more specific pricing studies. The following is an outline of typical elements which should be covered in this phase of the study:<sup>3</sup>

1. Take a complete inventory of your current prices and make a systematic, up-to-date comparison with competitors' prices.

2. Get down on paper an exact description of your present pricing methods and policies. (In many companies policy coverage is so fragmentary that this policy inventory in itself is highly valuable.)

3. Define explicitly both the general and the specific objectives of each of your pricing policies. (Price policies are not an end in themselves but a means to an end.)

4. Determine whether your prices and policies are tuned to your company's economic environment (to the economic nature of the product and the structure of competition).

5. Check your prices and policies for consistency with relevant costs.

In making the preliminary general analysis, consideration should be given to the following general factors which control pricing policy:<sup>4</sup>

1. *The buying actions of your prospective customers.* Price setting should be based on forecasts of the long-run effect of different prices upon your probable sales volume.

2. *The behavior of your future costs.* Instead of following in the wake of current cost changes, prices should be based on projections of the effects on future cost of different wage rates, more volume, bigger plants, and technological advance.

3. *The reactions of existing competitors.* Companies and products differ greatly in their competitive environment in ways that have a profound effect upon the pricing strategy that is appropriate. Economic research provides definite guidance in guessing rivals' reactions.

4. *The entry of potential competition.* Fancy profit margins stimulate encroachment. The effects of your price on the entry of new firms into your industry needs to be watched continuously.

5. *The effects of cyclical fluctuations in national income.* Capital goods

<sup>3</sup> Joel P. Dean, "Research Approach to Pricing," American Management Association, Marketing Series No. 67, 1947, p. 5.

<sup>4</sup> *Ibid.*, p. 6.

are particularly sensitive to changes in business conditions, since their demand is derived and highly postponable. Moreover, there is much evidence of cyclical changes in the elasticity of demand (i.e., the responsiveness of sales to price).

6. *The relation of your price to your sales promotion.* Pricing and sales promotion are competing alternatives for developing volume. Research can provide intelligent guidance to the development of the best combination.

**Analysis of Price Levels.**—Price trends must be taken into account in any pricing study, even though they will not provide a direct basis for price setting. A leading washing-machine manufacturer, for example, priced himself out of business and almost faced bankruptcy primarily because he was unaware of the general trend of prices on household appliances, although a study of the general price level over a period of twenty-five years clearly indicated the necessity for radical downward price revision.

Current price data, related to an increasingly extensive history of price behavior, are made available by various government agencies. The Current Survey of Business regularly reports price data. The Bureau of Labor Statistics maintains a consumers' price index which is invaluable in following the general course of prices. In addition to specific price data which are now available in wide variety and large quantity, many general analyses of price behavior by economists may be studied, both for their conclusions regarding price behavior and for specific price data which may be useful in a given analysis.<sup>5</sup>

**Price Surveys.**—The price survey is the simplest approach for obtaining specific market information applicable to a particular pricing problem. These surveys are made for two purposes: (1) to obtain accurate current price data, and (2) to obtain opinions regarding what constitutes the most effective price for a given product.

One of the chief causes of bad pricing is ignorance of actual market price, as opposed to theoretical prices. Large-scale production generally involves standardized prices, and national manufacturers usually set uniform prices at which their products are to be sold. Actually, prices vary considerably between territories, types of outlet, and periods of time. During a period of declining business, price cutting becomes prevalent. Too often manufacturers have no idea of the actual market prices paid by consumers for their

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<sup>5</sup> See Frederick C. Mills, *Price-Quantity Interactions in Business Cycles*, National Bureau of Economic Research, 1946.

products. The price survey which obtains realistic data on market prices is an important element in constructing a price policy.<sup>6</sup>

Another form of price survey measures the attitudes of consumers and distributors toward various price levels. As a preliminary to more scientific tests and in situations where products are not available on the market, this procedure has some value. However, it is extremely dangerous, because respondents are notoriously not qualified to estimate their actual reaction to a given price situation.

Sometimes, responses to questionnaires on pricing are also employed to determine the feeling of respondents as to the relative importance of price as a buying motive. However, any form of price survey which seeks to obtain consumers' or dealers' appraisal of prices is bound to produce biased results, usually on the lower side.

**Analysis of Sales-Price Trends.**—Conventional price studies follow the pattern of relating competitive sales volume to competitive prices, chiefly on a trend basis. By observing his competitive share of the market over a period of time, one manufacturer found that when the consumer price of his product was no more than four cents per unit above the average price of competitive products he could obtain satisfactory sales volume. As soon as the consumer price differential exceeded four cents, however, a sharp decline in his volume occurred. This led to a policy of pricing which generally produced a differential of three to four cents over competition at the retail level.

In this connection the possession of accurate data regarding the sales volume and the price differential of competitive products at the consumer level is of great value.<sup>7</sup> Where such data are not available, it is necessary to analyze the sales data of the manufacturer, wholesaler, or retailer. The use of budgetary control data on price, volume, and profit performance is of considerable help.<sup>8</sup>

The chief problem in examining a firm's past records of sales and prices is to secure a measure of the effect of price changes on sales volume, at the same time taking into account the various other elements of the picture which may have changed. Statistical methods may be applied to eliminate variables, such as a change in quality of the product, and to distill a pure demand curve.<sup>9</sup> However, this

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<sup>6</sup> For an example of a reporting price survey, see "A. A. Readers Get New Retail Price Analysis Monthly," *Advertising Age*, July 28, 1947.

<sup>7</sup> The A. C. Nielsen index provides such data.

<sup>8</sup> See J. Brooks Heckert, *Business Budgeting and Control*, New York, The Ronald Press Co., 1946, Ch. 9.

<sup>9</sup> See Frederick C. Mills, "Elasticity of Physical Quantities and Flexibility of Unit Prices in the Dimension of Time," *Journal of the American Statistical Association*, December, 1946.

is extremely difficult, as these variables cannot always be held constant. By the use of multiple-correlation procedures, actual prices and quantity changes are correlated to produce data which are generally much more useful than cruder statistical methods or mere observation of data on sales and prices.

**Controlled Experiments.**—The most scientific application of marketing research to pricing problems is in the measurement of quantities of a given product which will be absorbed by the market at various price levels. Since most manufacturers hope to obtain the highest possible price consistent with reasonable volume of sales, many overlook the possibility of obtaining a much greater net yield as a result of the increased volume which could be gained by a reduction in price. This opportunity is not limited to packaged consumer products sold on a competitive market, but actually has a broad application throughout industry. For example, even in a monopolistic situation, a utility system which fought rate reductions for years found that price reduction stimulated demand to such an extent that net profits were greatly increased.

By conducting controlled pricing experiments, the marketing analyst is simply translating the theoretical economic principles of demand elasticity into realistic practice. Where the study reveals an elastic demand, it will generally point the way to greatly increased profits as a result of expanding demand under lower unit prices. Studies of the price differential which should be charged for Ethyl gasoline, as compared with regular grades, showed that by narrowing the margin it was possible to take Ethyl gasoline out of the luxury class and make it a real volume item.

Controlled pricing experiments often lead to the discovery that greater returns will be obtained by actually increasing the unit price. Manufacturers who use instinct or casual observation as a basis for pricing often price themselves out of the market by cheapening their product in the eyes of prospective consumers. The experiments conducted on Perstiks, a deodorant in the shape of a lipstick, are an example of how controlled pricing can lead to comparatively high prices. Prices were tested in representative neighborhoods at 25-, 35-, and 50-cent levels, and it was found that the 50-cent price brought the best return.<sup>10</sup>

In setting up a controlled test it is most important to select stores and neighborhoods which are representative, and to control all variables, other than price, as carefully as possible.<sup>11</sup> An adequate

<sup>10</sup> Richard Giles, "Test the Product First," *Printers' Ink*, July 16, 1936, p. 46.

<sup>11</sup> See pp. 316-319.

testing period must be allowed, and a sufficient quantity of data taken to insure statistical stability. These tests are expensive and time-consuming. They must be interpreted with extreme care, so that uncontrollable variables are taken into account. They are generally more adaptable to consumer goods than to capital goods.

In these experiments the amount of product sold at different price levels must be correlated with production and marketing costs to arrive at the price which will yield the greatest net return to the manufacturer or merchant. The following example illustrates the method of analysis:<sup>12</sup>

TABLE 34  
EFFECT OF VARYING UNIT SELLING PRICE ON TOTAL  
EXPENSE AND NET EARNINGS

Selling Price per Unit	Number of Units Sold	Total Sales Made	Cost of Goods	Gross Profit	Variable Ex- pense *	Fixed Ex- pense †	Total Expense	Net
10.....	600	\$60.00	\$40.00	\$20.00	\$3.60	\$10.00	\$13.60	\$ 6.40
9.....	800	72.00	48.00	24.00	4.32	10.00	14.32	9.68
8.....	1,200	96.00	66.00	30.00	5.76	10.00	15.76	14.24
7.....	1,300	91.00	71.50	19.50	5.46	10.00	15.46	4.04

\* Variable expense includes such items as wages, wrapping paper, and twine.

† Fixed expense includes such items as rent, insurance, and administrative expense.

## Market Trends

The subject of market trends embraces the study of all changes in the market for a product over a period of time. The object of such analyses is to interpret changing conditions and to forecast future market conditions.

**Scientific Market Forecasting.**—Scientific market forecasting is possible because changes in consumer demand occur as a part of a total social process, and significant social changes move in definite patterns at a relatively slow pace. The reader can probably recall the publicity given to the statement that the brewers were caught entirely unawares by Prohibition, and the complaint that a major industry was suddenly forced out of business by legislative action in 1919. As a matter of fact, the state of Maine went dry in 1850, and from that time the Prohibition movement slowly spread. By the time that the Eighteenth Amendment was ratified, 75 per cent

<sup>12</sup> Based on a research of consumer purchases of soap.



of the population and 90 per cent of the territory of the United States were legally dry by local option.

People in the mass move slowly. From the point of view of technical forecasting, changes which appear on the surface to be rapid and violent usually occur slowly and in a regular pattern. Magazines once printed pictures of a large pile of hairpins which had been dumped into a vacant lot by a bankrupt business which had been suddenly confronted with the fact that women's hair styles had changed so there was no longer a demand for hairpins. To the general public, the American woman made a sudden decision to bob her hair. Many businessmen, like the hairpin manufacturer who depended upon the fashion of long hair, held to a similar belief. Had the hairpin manufacturer kept in touch with his market, however, he would have discovered that Irene Castle had bobbed her hair nearly twenty years before. Miss Castle's bobbed hair made front-page news while she was playing in musical comedy in New York at the time. While the play was still running, a few brave New Yorkers followed her style. Very slowly, at first, the fashion spread, and by 1925 a majority of American college girls had their hair bobbed. By 1929 the vogue was common enough to put firms which were not forward-looking out of business.

This example is especially interesting because one manufacturer of hairnets was close enough to his market so that he was not caught unawares by this fashion change. He saw the change coming and did two things. First, he added other products which now provide the major source of income for his company. Second, hairnet production was curtailed enough to maintain a profit, and today he has a line of hairnets which continues to return a profit annually.

Many other examples could be mentioned to illustrate the point that market changes occur at a relatively slow rate and in regular pattern. Women continued to sew by hand for a whole generation after the sewing machine was invented. Zippers were available in 1900, but were regarded as a new invention in the 1920's, and were not in common use until the 1930's. The slow acceptance of the bathtub is still another example. One state even passed a law prohibiting its use.

Many business firms now employ scientific methods to forecast the future market for their products or services. The American Telephone and Telegraph Company, for example, makes many long-range forecasts of the demand for its service in different areas, some confined to sections within cities. Many railroads make careful forecasts of future traffic demands. For several years the General

Motors Corporation has made extensive forecasts of the probable future demand for automobiles.

The American Radiator Company is very careful to budget its production in the light of analyses of the future demand for its products. By analyzing the course of such factors as building permits, building contracts, and other data reflecting the amount of building activity, this company can plan production, control both the amount and the distribution of inventory, and in other ways direct its marketing operations more efficiently. This company has been making sales forecasts for many years, and its forecasts have seldom been off by more than 10 per cent.

Another firm which engages in extensive long-range sales forecasting is the General Electric Company. The results of twelve of its forecasts made in 1944, while the war was still on, as compared with estimates of actual industry sales in 1947, follow:<sup>13</sup>

TABLE 35

Product	Forecast	Actual Sales
Radio receivers.....	15,000,000	16,834,700
Refrigerators.....	3,800,000	3,400,000
Washing machines.....	2,700,000	3,573,000
Vacuum cleaners.....	2,390,000	3,704,000
Ranges.....	850,000	1,200,000
Water heaters.....	300,000	1,100,000
Ironing machines.....	335,000	564,000
Mixers.....	1,100,000	1,450,000
Toasters.....	4,100,000	3,760,000
Heating pads.....	1,790,000	1,369,000
Home freezers.....	500,000	450,000
Automatic electric blankets.....	450,000	550,000

The combined forecasts proved to be approximately 85 per cent accurate. It should be observed that this company has a general policy of being "about 10 per cent on the conservative side." Had the forecasts been made without this element, they would have been even more accurate. The fact that these forecasts were made during a wartime period, and all the special hazards of transition from war to peace were encountered, indicates both the skill of the work and

<sup>13</sup> Russell H. Colley, "How Straight Can We Shoot in Long-Range Sales Forecasting?" *Sales Management*, July 1, 1948, pp. 94-100.

the possibility of reasonably accurate forecasting even under exceptional conditions. It is interesting to note that the last two items shown, home freezers and electric blankets, were so relatively new on the market that no market history was available to guide the forecasts, yet they were remarkably accurate.

This example has been presented at some length because it deals with forecasting in a field which is relatively volatile and subject to sharp changes in the market. The forecasting of consumption of more staple products, such as foods and drugs, is much less difficult. The illustration also shows forecasts for individual products, which again is more difficult than forecasting for broader classes. For example, the General Electric forecast of the total demand for electricity (in billions of kilowatt hours), made in 1941 for the three following years, was much closer:<sup>14</sup>

TABLE 36

Year	Forecast	Actual
1942.....	192.5	189.2
1943.....	222.0	221.0
1944.....	235.2	230.7

An example of the application of market trend analysis in the industrial field is a study made by the Dodge Manufacturing Company, which manufactures V-belt drives, steel pulleys, friction-bearing assemblies, and other products sold to the general industrial market. Analysis of various statistical series which might be used as a basis of sales forecasting showed that a component employed by the Department of Commerce, in arriving at its data on "national income" and "gross national product," produced a very close correlation with the sales experience of this company. The series employed was the Value of Producers Durable Equipment, supplemented by the Projected Investment in Plant and Equipment, which provides a future forecast base quarterly. Data employed in this analysis were as shown in Table 37.

Single events, particularly those which appear to be exceptional, and short-term changes in sales volume often play too important a

<sup>14</sup> Robert S. Peare, in an address before the New York Market Research Council, December 13, 1946.

<sup>15</sup> See Donald Gates, *Revised Federal Statistics Aid in Forecasting Sales of Industrial Equipment*, Industrial Marketing Case Study No. 1, Industrial Marketing Committee of the American Marketing Association, 1948.

TABLE 37

Period	Producers Durable Equipment	Dodge Billings	% Deviation from P.D.E.
1929.....	141	157	+ 11%
1930.....	108	100	- 7
1931.....	69	65	- 6
1932.....	39	32	- 18
1933.....	39	40	+ 3
1934.....	55	53	- 4
1935.....	73	71	- 3
1936.....	99	100	+ 1
1937.....	119	135	+ 13
1938.....	87	82	- 6
1939.....	100	100	0
1940.....	134	135	+ 1
1946			
1st quarter.....	198	305	+ 54
2nd quarter.....	252	420	+ 67
3rd quarter.....	288	363	+ 26
4th quarter.....	343	482	+ 40
1947			
1st quarter.....	363	536	+ 48
2nd quarter.....	393	540	+ 37
3rd quarter.....	393	404	+ 3
4th quarter (forecast).....	388	442	+ 14

part in moulding marketing policies. It is unfortunate that business executives do not realize that a single event is but one of a group of similar events which differ only in degree. The more unusual or abnormal a single event is, the less likely it is to recur; hence the greater risk in making a business decision on it.<sup>18</sup> Being too close to one's own picture often results in oversensitivity to a sudden change in the sales picture, which is another contributing factor to faulty judgment regarding the future. Only by scientific market trend studies which place single events in their proper perspective and cause management to think of sales on a base broader than the firm's own immediate situation, can these dangers to sound marketing planning be avoided.

The increasing use of scientific forecasts in business operation has come about largely because of the growth in the size of business

<sup>18</sup> See Donald R. G. Cowan, "The Commercial Application of Forecasting Methods," *Journal of Farm Economics*, January, 1930, p. 142.

units, increasing severity of competition, and the greater flexibility and change in markets. The maintenance of consistent profit in a large business enterprise, with a complex organization in which many individuals are involved in policy decisions, makes it imperative that as much guesswork as possible regarding the future be deleted from business management.

**Sales Forecasting.**—The most extensively used form of market trend analysis is the development of sales forecasts (quantitative forecasting). The function of such research is the determination of sales-volume objectives, in units or dollars, on the basis of the anticipated trend of the size of the total market for the product involved. The following statement indicates the position of such work in marketing management:

Many companies maintain very comprehensive departments on sales forecasting alone; some have their own economic and market research staffs, and have current information available at all times. Such staffs work closely with the manufacturing, engineering and research departments in planning sales by products, sizes, colors, etc., in order to take advantage of any special circumstances.

The importance of this phase of sales control cannot be overemphasized. After all, it is the spearhead of every selling program—it provides the blueprint of *what* you intend to sell, *where* and *when*. It is the forerunner and the basis for planning the selling organization, sales budgets and management of the selling force.<sup>17</sup>

**Methods of Sales Forecasting.**—A variety of technical approaches to sales forecasting have been developed. Those in most common use embrace the following:

1. Jury of executive opinion.
2. Sales force composite.
3. Correlation analysis.
4. Trend and cycle analysis.
5. Industry forecast.
6. Product-line analysis.
7. End-use analysis.

Some of these methods are very simple to apply. Examples are the jury of executive opinion and the sales force composite, which are essentially the pooling of individual estimates of future sales made either by groups of executives or by members of the sales force.

<sup>17</sup> George A. Fry, "Establishing Effective Sales Controls for Management," Nineteenth Boston Conference on Distribution, 1947, p. 42.

Other methods are highly complex, such as correlation analysis and trend and cycle forecasts. Each approach to the technical aspects of forecasting has its own advantages and limitations.<sup>18</sup>

**Steps in Sales Forecasting.**—The most important factor in successful sales forecasting is to employ a general procedure which will take into account the various elements of the individual situation and to select the technical method which is best adapted to the particular problem. The following procedure is based on the experience of a number of organizations with successful records of forecasting :

1. Plan the forecasting period.
2. Break the market down into elements.
3. Gather complete data.
4. Project long-range trends.
5. Adjust for unusual circumstances.
6. Adjust for seasonal variation.

**PLANNING THE FORECASTING PERIOD.**—The first step in making a sales forecast is to decide the period of time for which the forecasts are to be constructed. Forecasts can be made on a long-range trend basis, generally extending over a period of five or more years; on an intermediate-term basis, covering a period of from one to five years; and on a short-term basis, usually for a period of one year.<sup>19</sup> The usual period for a quantitative sales forecast is one year. Without this short-term forecast, it is impossible for a company to plan its production, sales, and advertising budgets, and all the other elements which determine marketing policy. But even if the main emphasis is to be placed on short-term forecasting, it is always wise to plan for a longer period. This is true because secular (long-term) trends are at work affecting the market for any given product, and the general rate of growth is a primary factor controlling potential sales volume in any coming period.

Where the operations of a firm involve the establishment of service or wholesaling plants which require considerable investment, as in the case of telephone service or meat-packing establishments, it is obviously imperative to make market forecasts for very long periods.

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<sup>18</sup> See National Industrial Conference Board, *Forecasting Sales*, Studies in Business Policy No. 25, September, 1947. This booklet describes the various methods, discusses the advantages and disadvantages of each, and contains case examples of their use.

<sup>19</sup> For a discussion of forecasting periods, see R. Parker Eastwood, *Sales Control by Quantitative Methods*, New York, Columbia University Press, 1940, pp. 88 ff.

One automobile tire company uses four years as its forecasting period, having found from experience that this is the period which provides management with the necessary information for controlling marketing policy. Generally speaking, it is best to begin long-range forecasting with a five- or ten-year period, then as experience is gained, to refine the period of the forecast to that which the character of the product and the data available will sustain.

**BREAKING THE MARKET DOWN INTO ELEMENTS.**—In this second step it is necessary to determine the exact nature of the products for which market forecasts are to be made. This may be largely a matter of definition. For example, "cereals" is a broad term, and there are many fringe products which may or may not be included in the definition of product. Precise definition is important in insuring the homogeneity of data which will be employed later. In general it is better to be rather restrictive in product definition, confining the forecast to those forms of product which make up the vast bulk of the firm's market and eliminating fringe products, rather than having the operation cluttered with a number of relatively inconsequential items which may confuse the issue.

In addition to definition of product, there is the question of the extent to which the forecast is to be broken down by individual items. There are a number of types of cereals, and within each type important product classes. In the case of electrical appliances, the example of the General Electric forecasts, referred to earlier in this chapter, shows how a large number of individual items may be segregated and separate forecasts made for each one. Where it is possible and expeditious to make fine breakdowns, greater accuracy may be obtained and special circumstances taken into account, with the result that the forecasts will be of greater practical value to sales management.

Another aspect of this problem is the analysis of the total market for a single product in order to segregate individual market segments. This is important because, for many products, there are different groups within the market which may behave much differently in any given period of time. In the case of cereals, there is the consumer market in contrast to the institutional and industrial market. An example of segregating the market for forecasting purposes is an automobile tire business, which makes separate forecasts for each of the following segments:<sup>20</sup>

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<sup>20</sup> Ira G. Needles, "Sales Forecasting and Budgeting," in Samuel B. Stocking (ed.), *Management in Marketing*, Toronto, University of Toronto Press, 1947, p. 34.

1. Replacement market (automobile owners).
2. Equipment market (new cars).
3. Export market.

In this industry, passenger-car and truck tires would also be separated. Some tire companies make very fine breakdowns, preparing individual forecasts for such market segments as agricultural implements and airplanes.

GATHERING COMPLETE DATA.—If it were possible to go to some one source, such as a firm's own sales data or the reports on industry volume, and base an adequate forecast on one series, the problem of forecasting would be greatly simplified. In the case of the domestic passenger-car market, the General Motors Corporation and other companies have been able to make accurate forecasts of new-car sales, working largely on the basis of industry sales and registrations. However, such accurate and useful data are not often available.

Generally it is necessary to obtain four types of data in as complete form as possible in this time-consuming stage of the forecasting operation. The first type is basic economic data. These embrace many time series which reflect the progress of the national economy.<sup>21</sup> Certain series have become more or less standard business indicators, such as the Federal Reserve Board Indices of Production. One of the most useful general economic series, which has been maintained for several years and is now greatly improved, is the series on income payments to individuals.

A second type of data which should be gathered is information on industry sales over a period of years. The automobile industry is particularly fortunate in having such a fund of data. Other lines of business also have rather complete information, and this subject should be thoroughly explored.

A third type of data to be sought is information on the trend of consumption over a period of years. Since 1930 an increasing amount of data regarding consumption of various products has become available.<sup>22</sup> Special studies on consumption trends, which are made from time to time, reflect changes in consumer buying and should be assembled as part of the factual basis for forecasting.<sup>23</sup>

<sup>21</sup> See *State, Regional, and Local Market Indicators*, U. S. Department of Commerce, Economic Series No. 67, 1948. This booklet contains comparisons for several periods, and may be used as a guide to more detailed sources.

<sup>22</sup> See Frank A. Garfield, "Measuring and Forecasting Consumption," *Journal of the American Statistical Association*, September, 1946.

<sup>23</sup> An example is John W. Wingate, "Shifts in the Relative Importance of Merchandise Lines," *Journal of Retailing*, October, 1944.



Finally, sales data of the individual enterprise should be assembled in as complete form as possible, although market forecasters warn against placing too much reliance on such data in making sales forecasts. However, these data must be taken into account in later stages, and a thorough search of sales data is a final step in the assembly process.

PROJECTING LONG-RANGE TRENDS.—For some time forecasters applied correlation methods to the analysis of a series of data for several years, then made a mathematical forecast on the basis of straight-line projection. The problem of projecting long-range trends is no longer approached so simply, for experience has shown that some new disturbing factor, usually a technological change, often makes such a method invalid. For example, the application of power methods to farming completely upset the general trends for many products.

Nevertheless, the analysis of past data by various statistical methods provides an important element in the forecasting process. By exercising caution and thoroughly investigating potential disturbing factors, the mathematical trend forecast may be employed effectively as a bench mark. There is a variety of methods of mathematical analysis, and a great deal of experience regarding their value has been accumulated.<sup>24</sup>

One of the most useful devices in establishing long-range trends for marketing purposes is the growth curve of the market for the products of any given industry. This curve has been established on the basis of an analysis of the experience of many industries, such as shoes, railroads, and radio sets. It has been established that the growth of a market follows a regular pattern, not unlike the biological growth curve. The first stage is *development*, in which the market resists the acceptance of a new product and the growth of sales is very slow. The second stage is *expansion*, in which market acceptance reaches the point where the idea spreads at a geometric rate; this stage is characterized by a rapid increase in industry sales. The third stage is *slowdown*; as the cream has been skimmed off the market, the use of the product is established among the bulk of consumers, and saturation is approaching. The fourth stage is *saturation*, in which the product is in common use and sales are primarily a matter of replacements or meeting the needs of current consump-

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<sup>24</sup> For methods of mathematical trend analysis, see general textbooks on statistics. R. Parker Eastwood, *Sales Control by Quantitative Methods*, New York, Columbia University Press, 1940, pp. 93 ff., and Elmer Clark Bratt, *Business Cycles and Forecasting*, Chicago, Richard D. Irwin, Inc., 1948.

tion. Once an industry has reached a point of market saturation, the only basis of long-range increase is population growth, unless some new product development or the opening up of some entirely new market segment occurs.

It should be observed that, just as in the case of the biological growth curve, there is a declining aspect to the growth curve of an industry. If technological change produces a significant new type of interindustry competition which makes the product unnecessary or undesirable, decline sets in. As users are lost, the market for the products of the industry proceeds to a stage of "slow decline." The rate of decline then accelerates to a geometric rate, producing the period of "rapid decline," which is followed by the final period of "disappearance," during which the market is slowly but surely lost.

These industry growth curves have strikingly similar characteristics. However, the rate at which different industries progress through the various stages varies greatly. The rapid rise of the radio industry is an illustration. But the general shape of the growth curve is always followed because of the inherent characteristics of market behavior. In making the projection of the long-range trend, therefore, the principle of the market growth curve should always be applied.

An extensive compilation of long-range trends for many products and economic indices has been made by the Twentieth Century Fund.<sup>25</sup> An example of a trend forecast for a specific market is the report on a forecast made for toys, broken down for nearly thirty individual items.<sup>26</sup>

It should be noted that the end product of the analysis of long-range trends is a forecast of the market for a given product on either an industry or individual company basis. If the forecast has been based primarily on industry data, which is most desirable, the final figures will be for the total market. It is then necessary to make an analysis of the normal percentage of industry sales which the firm enjoys, and apply this percentage to obtain the sales forecast. Where the emphasis has been primarily upon an analysis of past sales records of the individual enterprise, this step is not necessary.

**ADJUSTING FOR UNUSUAL CIRCUMSTANCES.**—The end product of the long-range trend analysis is a forecast of sales for a number

<sup>25</sup> J. Frederic Dewhurst and Associates, *America's Needs and Resources*, Twentieth Century Fund, 1947.

<sup>26</sup> Snyder Business Research Reports, *Trends in the Toy Market*, August, 1946, and *Trends in the Sporting Goods Market*, 1947. See also *L-P Gas, A Market Forecast*, Philadelphia, Curtis Publishing Co., 1947.

of years into the future. Before the sales forecast for the coming sales period is put into actual use, however, it must be scrutinized carefully in the light of current market conditions and adjusted accordingly.

It is impossible to list all the various conditions which may arise for any given industry or company at any given time. In the process of constructing the forecast, the researcher has presumably made a thorough search of all facts which have a bearing on future sales. One example showing the kind of information which should be taken into account in adjusting for unusual circumstances is the following:

It is necessary that the sales forecast take into account the current state of business in general, special advertising or sales programs, new products and competition. It is quite important, therefore, that persons responsible for the sales forecasts consult with others in the sales, advertising and product development divisions. It is desirable that the forecast be made for at least one year in advance to make due allowance for the seasonal variation.<sup>27</sup>

**ADJUSTING FOR SEASONAL VARIATION.**—After a short-period sales forecast has been developed on the basis of the analysis of long-range plans, adjustments for seasonal variation are made. These adjustments are necessary because the sales forecast is of most value in marketing operations when broken down into periods shorter than a year. Practically every industry finds that its market exhibits distinct seasonal characteristics which repeat themselves from year to year.

In adjusting for seasonal variation the simplest device is to determine for a number of years what proportion of a year's sales occurs in each month, and apply the percentages thus obtained directly to the one-year forecast. This method not only is easy, but in most circumstances, is fully adequate. It is important to select for analysis years which are reasonably normal, and to take a sufficient number into consideration. It is also necessary to examine the data critically to detect any unusual circumstances, such as promotions and weather conditions, which may have had an influence in the past.

More complex mathematical methods of adjusting the forecast for seasonal variation are available. These include moving-averages, ratios-to-trend, and the link-relative methods.<sup>28</sup> Unless the seasonal characteristics of a market are particularly complex, however, the use of monthly averages is generally satisfactory.

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<sup>27</sup> A. H. Robinson, "Production Control in a Seasonal Industry," *The Conference Board Management Record*, December, 1946, p. 392.

<sup>28</sup> See Eastwood, *op. cit.*, pp. 114-118.

**Special Methods of Market Forecasting.**—A number of special methods to forecast market trends have been developed. The most important of these methods will now be discussed.

**SURVEYS OF BUYING INTENTION.**—The most common procedure of market forecasting is to work with available statistical data. A different method is to employ consumer survey techniques to determine the intentions of buyers. This procedure cannot provide precise data, as consumers are vague about their future plans, and these intentions are always subject to change. On the other hand, there have been many evidences that surveys of buying intention help to shed light on the forecasting problem. This is particularly true in connection with such qualitative factors as brand preferences.

An example of such a survey is the study made by the McCall Corporation. In this survey the buying plans of 1,611 women for the coming year were investigated. Subjects covered included automobiles, radios, and sixteen items of household equipment. The extent of ownership of each item was obtained, and an effort made, by supplementary questioning, to determine the validity of intentions. Information on prices consumers intended to pay for different items was another feature of the survey.<sup>29</sup>

A continuous survey of buying intentions is conducted by the Market Research Corporation of America and sold on a cooperative basis to manufacturers. The Index of Buying Intentions covers eight household appliance items at present, and, as the methodology is proven, is expected to be extended to other items.<sup>30</sup>

**STRUCTURAL ANALYSIS.**—An entirely different approach is structural analysis. The essential procedure in this method is to analyze the structure of markets from statistical data on the level of activity of different industries. This procedure is limited to analysis of the market for industrial products, and as pointed out by Leontief, its principal exponent, must support and supplement, but not replace, the use of time series.<sup>31</sup>

Various industries, such as ferrous metals, textiles, and rubber, are arranged along the top and side of a two-dimensional table. The distribution of sales of each of the industries to all other industries in the analysis is spread along the rows. In each column the purchases of an individual industry from all other industries are shown.

<sup>29</sup> *Survey of Buying Intentions: Automobiles, Radios and Household Appliances*, Redbook Market Research Department, 1947.

<sup>30</sup> "Index of Buying Intentions," *Tide*, May 7, 1948, pp. 17 ff.

<sup>31</sup> Wassily Leontief, "A New Approach to the Problem of Market Analysis," American Management Association, Marketing Series No. 59, 1945. The method is described in detail in this report, and summaries for 20 industrial groups are given.

Based on the theory that the sales outlook of any one industry is inseparably connected with the level of output of other industries, this method thus makes a simultaneous analysis of input and output of all industries. The Bureau of Labor Statistics assembled the original data, which have been worked out for ninety-four separate industries.

**INCOME DISTRIBUTION ANALYSIS.**—Another special method of market forecasting is based upon analysis of the distribution of income payments to individuals. These data are provided regularly by the Departments of Labor and Agriculture, and current estimates are prepared by *Sales Management* magazine. The Consumer Purchase Study and other researches provide data on the relationship of various income classes to the purchase of different types of commodities, so that projections based on total income payments are possible.

These data are used in analysis in the following steps:

1. Estimates of population.
2. Estimates of total income.
3. Estimates on purchasing by income classes.

By combining population with total income and its distribution, an up-to-date pattern of the distribution of income which may be used as a forecasting base is obtained. By applying this pattern with known data on purchasing by the various income classes, the size of the market is determined. Comparisons of the results of this approach with known sales of different textile products by years from 1935 to 1941 show a very close correlation in trend.<sup>32</sup> This approach has certain advantages in developing sales budgets for territories and local markets, as sales trends can be computed directly for each unit on the basis of the data described above.

**POOLED FORECASTS.**—Another approach to the forecasting problem is pooling forecasts of individual members of an industry. While the methods employed by any individual industry member may vary considerably, ranging from pure guesswork to scientific forecasting, this method has certain advantages as a means of checking, and in some industries it has worked very well. An outstanding example is the National Electrical Manufacturers' Association which maintains an extensive research department. Individual members report their actual sales and their sales forecasts by months to the association.

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<sup>32</sup> Serge P. Morosoff, "An Approach to Sales Forecasting Under Present Conditions," American Management Association, Marketing Series No. 63, 1946, pp. 32 ff.

**LOCAL FORECASTS.**—The problem of developing the sales budget so that trends in individual territories or markets can be forecast is a difficult one. Because of special local conditions, it is not satisfactory simply to spread the general sales forecast to the territories. The anticipated volume based on the national forecast is adjusted by surveys of local conditions. Another procedure is to make individual analyses of sales trends and forecasts for individual territories.

**The Sales Budget.**—After the quantitative trend analysis has established the sales forecast, it is necessary to make a detailed breakdown in order to establish a complete sales budget. While a great many marketing policy decisions can be made directly on the basis of the over-all sales forecast, the most effective control of marketing operations from a trend point of view arises from the development of detailed sales budgets.<sup>33</sup>

These budgets are essentially breakdowns of the total sales forecast. The most common units for which anticipated sales budgets are developed are the following:

1. By products.
2. By sales territories.
3. By months.
4. By class of trade.
5. By class of market.

The extent to which these are further broken down—as, for example, to show forecasts of sales by territories by months—depends on how far the firm wishes to go in sales budgeting. Theoretically, it would be desirable to have these budgets broken down in great detail, in order to provide a more specific control over marketing operations in the various units. Practically, the amount of expense and paper work often militates against too fine a budgetary breakdown. A detailed breakdown should not be attempted until the company has obtained enough experience in forecasting work to be sure of its ground. A few bad experiences with forecasts will do great harm to the morale of the organization and make it extremely difficult to obtain acceptance of future forecasting or other research work.

**Qualitative Forecasting.**—The discussion of market trends up to this point has dealt with the *quantitative* aspects of the problem, namely, the volume or amount of a commodity which will be sold

<sup>33</sup> For examples and methods, see Paul H. Nystrom, Ed., *Marketing Handbook*, New York, The Ronald Press Co., 1948, pp. 1214–1221.

during some future period. Another important aspect of market trend analysis is the *qualitative* forecast, which deals with changes in the nature or character of the market.

Almost any market phenomenon can be observed in its relationship to time, so qualitative analysis can literally be applied to all forms of marketing research. Changes in the attitude of consumers toward product design, changes in buying habits, shifts in brand preferences, changes in their reaction to advertising or prices—all these are specific examples of the breadth of the field of qualitative trend analysis. The marketing researcher should always consider the time-dimension aspects of any problem on which he is working. Furthermore, as the field of marketing research grows, more and more of its work will be on a trend basis. It is only because of the youth of the field, the lack of adequate data for trend comparisons, and the lack of sufficient experience with techniques for trend analysis that this approach is not more fully developed at the present time.

**SHIFTS IN MARKET PATTERNS.**—One aspect of qualitative forecasting deals with anticipated changes in the relative importance of various dealer or consumer groups in the market for a product. By comparing market patterns over a period of time, those elements which are growing and those which are declining in significance are delineated. For example, the following data show the per capita consumption of a certain food product by population groups during two successive years (data in dollars per 1,000 families):

TABLE 38

Size of City	Year A	Year B
Over 100,000.....	1,032	958
10,000-99,000.....	858	914
Under 10,000.....	683	712
Farms.....	321	367

This trend analysis indicates that the big-city markets are declining in importance for this product, and the farm market is growing at the fastest relative rate. The data show the value of trend comparisons, for in this case the largest market happens to be the declining one. Of course the data above are inadequate as a basis for making a major change in marketing policy and the apparent trend would have to be substantiated with more information.

One of the most common applications of shifts in market patterns is the analysis in trends of consumption by geographic areas. One such study, for example, revealed that while sales were showing a fine increase the actual consumption in certain southern areas had begun a declining trend. By considering the relative importance of these markets and analyzing the quantitative aspects of the situation, the manufacturer was provided with data which helped him decide whether to attempt to reverse this trend by increasing promotional efforts, or to accept it as a changing market acceptance pattern and conserve his resources for more promising segments of his market.

**FASHION FORECASTING.**—One of the most interesting fields of qualitative trend analysis is fashion forecasting. In many lines of business, changes in style and fashion are of great importance. When concerned with products subject to fashion trends, both producers and dealers require scientific information to guide manufacturing, buying, or merchandising policies. Manufacturers of products which are not generally considered strictly fashion merchandise, such as automobiles, floor coverings, and home equipment products, are interested in the application of fashion forecasting methods, for changes in design which result in changes in appearance in such products are important to successful marketing. The principles of fashion forecasting have been most fully developed in connection with fabrics, colors, styling, and such items as the length of women's dresses.

There are three general methods of fashion forecasting. The first is based on the principle of the fashion cycle, and involves statistical analysis of the frequency with which particular styles, colors, etc., are worn or purchased.

The fashion cycle for a new design has been analyzed into the following stages:<sup>34</sup>

Stage	Outlets Featuring
1. Creation	Specialty stores
2. Adoption	Specialty stores, some department stores
3. Popularization	Large department stores
4. Large-scale production	Low-price department, specialty, chain and mail-order stores
5. Decline	Basement and cheap stores

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<sup>34</sup> See Delbert J. Duncan and Charles Phillips, *Retailing: Principles and Methods*, Chicago, Richard D. Irwin, Inc., 1947, p. 120 and pp. 206 ff.



The fashion cycle for a new style is similar to the growth curve of the market for a product, described earlier in this chapter, but is statistically skewed more to the right.

The fashion cycle is observed by statistical counts of the frequency with which styles or fashion features occur. These counts may be made wherever people representative of the market may be found conveniently in large numbers. Favorite locations for such counts are streets, hotels, football games, etc.

The specific type of information taken in a fashion count is illustrated in a study of women's hats. Various types of hats, such as sailor, breton, beret, classic brim, off the face, and pillbox, are listed on a counting sheet. Columns opposite each style are provided for the checking of the basic colors, such as black, navy, and brown. The result is a two-dimensional table showing the frequency of occurrence of two of the basic elements of hat fashion. By making a series of such counts through time, the rising and declining interest of the public in various types of hat design may be plotted, and the point in the style cycle determined.

A second basis of fashion forecasting is leader-group analysis. This method is based on the psychological theory of emulation ("keeping up with the Joneses"). Certain classes of people are known as fashion leaders. By observing the styles worn by these people, it is possible to forecast far in advance the likely course of future public acceptance. The social set at Palm Beach, the country-club crowd and college students are examples of key groups which are studied in applying this method. A specific illustration is that of a manufacturer of men's belts who suddenly discovered that his complete inventory was obsolete because the demand for narrow belts had disappeared almost overnight. This brought the firm close to bankruptcy. When the cause was investigated it was discovered that the fashion for wide belts had originated on the campuses of certain universities. Since then, this manufacturer, by carefully following style trends among collegians, has been able to anticipate demand for various fashions in the products he sells.

A third method of fashion forecasting is based on jury opinion. A consumer jury, generally composed of typical users of the product, after being shown a number of sketches or models of proposed designs, indicates its preference. This method has been employed in connection with the styling of refrigerators, the determination of designs and patterns for rugs, and the planning of radio-phonograph cabinet designs. The panel of consumers is usually brought

together in a hotel room or some other convenient place, and the activity is set up as a style clinic.

It should be noted that both the fashion-cycle method and the leader-group method are based on the use of the observational method. The jury-opinion method, on the other hand, employs the survey method, and therefore has the limitations which generally apply to this procedure. The primary concern is to be careful that unusual or exotic designs do not lead to an expression of opinion which would not coincide with actual buying behavior. Because of this danger, the style clinic must be arranged so that participants have full opportunity to review their opinions and to give their considered judgment. The panel members chosen should be representative, the illustrations or models shown should be realistic, and the method of presentation should lead to the most effective expression of opinion. The success of the application of the jury-opinion method depends largely on the skill with which these elements are controlled and careful interpretation of results.

A special adaptation of the jury-opinion method is the use of leader groups in the panel. An example is the use of panels of college students by retail stores, a practice which has grown considerably.<sup>35</sup>

In spite of the general impression that fashions and style preferences are highly volatile, actually they are relatively stable in the course which they run. There are, of course, wide variations in the rate at which different fashions rise and fall in public favor, and occasional fads appear and disappear so rapidly that they cannot be forecast effectively. However, the vast bulk of fashion changes are predicted with amazing success, and modern manufacturers or merchandisers no longer rely on personal observation or instinct to guide them.<sup>36</sup> Several fashion services now provide general forecasts on a subscription basis.

**Other Types of Trend Analysis.**—Trend analysis of usage of various types of a product reveal market shifts which may be anticipated in advance. It takes a long period of time to develop new varieties of a product, to effect a change-over in production, and to engage in the promotion necessary to capture maximum sales volume. Manufacturers who anticipated the ultimate growth of such products as canned meats, tooth powder, and prepared cereals

<sup>35</sup> See Ralph Cassady, Jr., "Statistical Sampling Techniques and Marketing Research," *Journal of Marketing*, April, 1945, pp. 335-336. This article also describes an experiment by the National Retail Dry Goods Association in fashion forecasting.

<sup>36</sup> See G. J. Cullinana, "Can Style Acceptance Be Measured in Advance?" *Journal of Retailing*, October, 1947.

were able to capitalize on basic market trends. Analyses of this type also make it possible to drop obsolete products or models before they become a burden on the business and, at the same time, to guard against straying into promising fields which do not offer sufficient volume to warrant serious expansion and market cultivation.

Analysis of price trends is another profitable field. Unfortunately, many manufacturers and distributors are not aware of the ease with which pricing can get out of line with the economic demands of the market. When a firm waits until it is forced to alter prices, rather than varying its pricing with the market requirements, the consequences are often disastrous.

Trend analysis may be applied to a number of other marketing problems. For example, decisions regarding packaging may often be reached much more effectively through an analysis of trends in market preference than through a cross-section study. An illustration is the determination of whether to use long- or short-necked beer bottles, the extent to which cans rather than bottles should be employed, and which package sizes to feature. Such decisions are vital. They affect manufacturing, distribution, promotion, and many other elements of the business. The marketing researcher should consider carefully the advantages of making a trend study wherever changes through time may reveal future requirements most effectively.

## CHAPTER 14

### SCIENTIFIC METHOD

It was shown in the first chapter that the essence of marketing and distribution research is the use of scientific method in the solution of marketing problems. The scientific methods which the researcher employs are borrowed from many fields of science, with special adaptations necessary to meet the peculiar requirements of the marketing field. It is important, then, to consider the nature of scientific method before proceeding to an exposition of the special techniques employed in marketing and distribution research.

Much of the superficial work and many of the failures in marketing research may be traced to the lack of an understanding of basic scientific procedure on the part of those in charge. The advancement of research as a vital force in marketing is bound to come largely as a result of the development of sound scientific method in this field. Many of the techniques which are now employed may be regarded primarily as temporary stopgaps, which are used in lieu of more scientific procedure. With a better understanding of scientific procedure, it will be possible to supplant these temporary techniques with methods which are much more accurate and reliable.

The pioneers in marketing research saw the possible application of scientific methods which have been developed in the many fields of science to the special problems of marketing. These pioneers adapted the basic methods and techniques of other fields to the specific requirement of marketing. While it is possible that entirely new techniques and procedures will be developed, it is clear that this will be the exceptional case, and that the greatest advance will come as the result of the introduction of established techniques borrowed from other fields of science.

**What Is Scientific Method?**—It is impossible to give a categorical statement or definition of "scientific method." Scientists, themselves, are often in doubt as to what constitutes scientific procedure. Some have even gone so far as to argue that there is no such thing as "scientific method." William Graham Sumner is generally con-

sidered one of the masters of social science. In discussing the methods used by Sumner, Charles Cooley said:

As regards his technical procedure, there was, so far as I can see, nothing original or distinctive. Like Montesquieu, or Darwin, or a hundred others before him, he simply collected a great mass of relevant material and made what he could of it.<sup>1</sup>

A. G. Keller, in discussing Sumner's methods, said:

Sumner used to laugh at methodology. He had none, except of the sort that is exemplified in Darwin's work; he got myriads of facts and then performed inductions on them. His methodology consisted in toil. I may illustrate his attitude by the advice he gave to a young man about learning a new language:

"The way to learn a language is to sit down and learn it.

"The case is one of utter simplicity: Hard work, plus common sense, with no talk about it."<sup>2</sup>

It is impossible to define scientific method categorically, because there is no such thing as merely one scientific method, but rather there are many different scientific methods. An attempt to classify scientific methods met with the following result:

An enumeration of so-called methods was begun by the present writer, but its futility soon became apparent. The number of items in such an enumeration would be indefinitely large. Each subdivision of social inquiry, no matter how small, has its own "methods." Again, the items would be of differing degrees of generality. Sociologists and social workers make use of "case methods," but they also use the "method of the interview" as a subordinate aspect of "case method." "Statistical method" comprises, among others, the "method of least squares," while the latter may utilize the "method of logarithms."

It seems clear that the units of a suggested compilation would have no consistent relationship to subject matter, and would lack coordinate relationship, in most instances, with each other.<sup>3</sup>

In spite of the confusion as to what constitutes scientific methods, it is possible to differentiate between methods regarded as scientific and those which are not. There are many ways of approaching any problem, some of which are scientific and some of which are clearly unscientific. At the extreme, the differences between scientific and unscientific methods are clear. The solution

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<sup>1</sup> Stuart A. Rice, *Methods in Social Science*, Chicago, University of Chicago Press, 1931, p. 4.

<sup>2</sup> *Ibid.*

<sup>3</sup> *Ibid.*, p. 5.

of a problem by hunch, guesswork, opinion, and isolated examples is clearly unscientific. On the other hand, the solution of a problem by laboratory experiments which eliminate or control all variables influencing the results, which employ exact measurements, and which reduce human error and bias to a minimum, is clearly scientific. Between the extremes there are many efforts at the solution of problems which may be said to be in part scientific and in part unscientific.

Scientific method is most clearly expressed in the procedures of the physical sciences. In the physical and chemical laboratory, conditions are found which make for exact measurements and for objective experimentation and testing. As one passes from the physical sciences to the so-called social sciences, he finds that it becomes more and more difficult to maintain procedures which are scientific.

Generalizations in physical science are usually based on controlled observations which are described so explicitly that he who objects may repeat. Social science may look at the same phenomena and draw wholly divergent conclusions, which are tolerated as legitimate expressions of individual judgment. The distinctive characteristics of social phenomena are in dispute. The demarcation of social science from physical science is a matter of opinion, as is the question whether or not there can be social science in the sense that physics and chemistry are science.<sup>4</sup>

It is in part because scientific method is most clearly found in the fields of the physical sciences that the social scientist or the market analyst must turn to the physical sciences for the foundation of the methods which he is to employ.

Although it is impossible to make an exact definition of scientific method, and although there is no one specific method of solving problems which may be described as the scientific method, there are several standards by which one may judge whether or not a given study has been conducted in a scientific manner.

Among these are the following:

1. *The point of view of the person who conducts the study.* Instead of attempting to define or describe scientific method, it may be explained by examples of the work of such men as Pasteur. The procedure of these masters has the common element of the "scientific mind."
2. *The procedure used in a specific study.* If the procedure employed in a specific study is objective or involves accurate meas-

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<sup>4</sup> *Ibid.*, p. 3.

urements, it is said to be scientific. The degree to which the procedure employed is adapted to obtaining a sound, verifiable answer to the problem at hand may be regarded as one criterion of the use of scientific method.

3. *The use of generally recognized technique.* This method of explaining scientific method considers the extent to which the basic methods of science—such as the historical, inductive, analytical, or experimental—are employed in an individual study. There are also many generally accepted scientific techniques developed in such fields as statistics, psychology, and sociology, the existence of which indicates that a given operation has employed scientific method. The substitution of quantitative measurements for qualitative description may be said, in large part, to indicate the presence of scientific method.

A further consideration of the first of these—the description of scientific method in terms of the mental attitude or point of view of the person who conducts the study—will be of value. The scientific mind has many basic characteristics:

1. It is primarily *rational* and reasoning rather than emotional. It requires a logical solution to problems.
2. The scientific mind is *free from bias*. The influences of class, religion, ethics, community habits, and tradition are kept at an absolute minimum.
3. The scientific mind *bases its judgment on facts* rather than authority. Nothing is accepted as final, and the scientist constantly seeks new facts in order to confirm the judgment of past authorities in his field.
4. The scientist *deals with probability* rather than certainty. For centuries, mankind has sought final answers to problems. It was assumed that there was a right and a wrong, an eternal truth in all matters. This old bifurcate division of thought, which assumed that people were either good or bad, that things were right or wrong, has given way to a point of view which takes the middle ground, and with this development has come a tendency to express knowledge in terms of probability rather than certainty.
5. The scientific mind is constantly *challenging, weighing, and explaining*. It constantly seeks a “reason why” for the condition studied.
6. The scientist is *objective* rather than subjective. His emphasis is upon the data and facts with which he works, and he strives

to eliminate all subjective factors which must arise from the very fact that he is a human being with human instincts and emotions. The scientist is tough-minded about the facts.

7. The scientist is *selective* and discriminating in the work he does. He probes with keen instruments, constantly seeking that one phase of the phenomena he studies which will yield an answer to his problem.
8. The scientist is primarily *creative* in his efforts. The thrill of discovery is his great reward. After he has taken things apart, he sees new ways to put them together, new arrangements to make. This is the mark of creative thinking. Without the creative thinking, which carries analysis into the synthesis which produces an integrated result, there can be no true scientific method.

**The Creative and Developmental Aspects of Science.**—The creative aspects of science deserve special mention, for too many people regard scientific method as being primarily a mechanical operation. The trappings of the scientific laboratory and the tools of the statistician should not be interpreted as signifying that scientific method is at root a mechanistic process. Emphasis on the creative and developmental aspects of science is particularly important to the marketing researcher, who toils in a field where there is so much room for discovery and where human ingenuity is so richly rewarded.

Dr. Alexis Carrel, the great scientist, has expressed this as follows:

Intelligence alone is not capable of engendering science. But it is an indispensable factor in its creation. Science, in its turn, fortifies intelligence. . . . Men of genius, in addition to their powers of observation and comprehension, possess other qualities, such as intuition and creative imagination. Through intuition they learn things ignored by other men, they perceive relations between seemingly isolated phenomena, they unconsciously feel the presence of the unknown treasure. All great men are endowed with intuition. They know, without analysis, without reasoning, what is important for them to know. A true leader of men does not need psychological tests, or reference cards, when choosing his subordinates. A good judge, without going into the details of legal arguments, and even, according to Cardozo, starting from erroneous premises, is capable of rendering a just sentence. A great scientist instinctively takes the path leading to a discovery. This phenomenon, in former times, was called inspiration.<sup>5</sup>

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<sup>5</sup> Alexis Carrel, *Man the Unknown*, New York, Harper & Bros., 1935, pp. 122-123.



As Conant points out, science operates on the basis of concepts and hypotheses, rather than blind experimentation. Once a basic concept is achieved, experiments become more fruitful, and new avenues of experimentation are suggested. Hence the greatest advances take place in the practical arts in periods immediately following the emergence of new fundamental theories of wide applicability.<sup>6</sup>

But the development of science in any field is not primarily the work of any one individual. Scientific growth is almost invariably the result of cross-fertilization between groups and laboratories in widely separated parts of the world. Only rarely does one man or group of men recite a whole important chapter or even a whole important paragraph in the advance of science. Much more often the start comes from some isolated and perhaps timid voice making an inspired suggestion or raising some stimulating question. Then, as various practitioners make their individual contribution, we have a development, say, in marketing research, which truly brings the scientific method to this field.

Obviously, no one scientist is capable of mastering all the techniques indispensable to the study of a single human problem. Therefore, progress in knowledge of ourselves requires the simultaneous efforts of various specialists. Each specialist confines himself to one part of the body, or consciousness, or of their relations with the environment. . . . Each specialty is divided into smaller and smaller parts. There are specialists in glandular physiology, in vitamins, in diseases of the rectum, in those of the nose, in education of small children or of adults, in hygiene of factories and of prisons, in psychology of all categories of individuals, in domestic economy, rural economy, etc. Such a division of the work has made possible the development of the particular sciences.<sup>7</sup>

The importance of the interplay of ideas and the synthesis of factual material from many sources is being stressed more and more in scientific literature. One group has gone so far as to declare that investigations requiring extensive field work and the gathering of masses of quantitative data can be carried out successfully only by organized research agencies.<sup>8</sup> Thus, in marketing research, we must have larger and more competent organizations, and they, in turn, must depend more and more upon the efforts of others.

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<sup>6</sup> See James B. Conant, "Science and the Practical Arts," *Harvard Business Review*, Autumn, 1947.

<sup>7</sup> Carrel, *op. cit.*, pp. 45-46.

<sup>8</sup> *Economic Research and the Development of Economic Science and Public Policy*, National Bureau of Economic Research, 1946.

But at the hub of all scientific work stands the individual scientist, making his unusual contribution as a result of his personal skills, training, and experience. This is particularly true in the development of the generalizations which form the conclusions of a practical research project, and in the development of some new scientific concept or principle.

Such a synthesis cannot be obtained by a simple round-table conference of the specialists. It requires the efforts of one man, not merely those of a group. A work of art has never been produced by a committee of artists, nor a great discovery made by a committee of scholars. The syntheses needed for the progress of our knowledge of man should be elaborated in a single brain. . . . Broad and strong minds are rarer than precise and narrow ones. It is easy to become a good chemist, a good physicist, a good physiologist, a good psychologist, or a good sociologist. On the contrary, very few individuals are capable of acquiring and using knowledge of several different sciences.<sup>9</sup>

### The Basic Methods of Science

**The Historical Method.**—The historical method may be defined as that procedure which employs the analysis and interpretation of past historical events as a basis for an understanding of current problems and the prediction of future events.

The value of the historical method as a scientific procedure has frequently been doubted. It is true that all knowledge is historical. At any given time all of the facts which are used in a marketing research are past records. Consequently, the marketing researcher is, in a sense, always using the historical approach. Still this does not necessarily mean that he is employing the historical method as a distinct procedure in a given analysis. It is true that a knowledge of the background of the problem is indispensable to sound scientific procedure. But this knowledge is, for the most part, qualitative and lacking in accurate measurements; it is more the mental equipment of the individual making the study than a specific scientific procedure.

There are, nevertheless, several concepts or bases upon which it may be assumed that there is a distinct historical method, and that this method is scientific in character. These bases are the repetitive idea, the environmental origin of problems, and the environmental application of solutions.

The idea of the repetitive nature of events is most simply stated in the phrase "history repeats itself." For any given current event,

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<sup>9</sup> Carrel, *op. cit.*, pp. 47-48.

historians are able to find analogous events which have preceded it. Depressions follow prosperity, and prosperity in turn follows periods of depression. There is not only a continuous sequence of cyclical business fluctuation, but it is also usually found that the conditions making for one period of depression are essentially the same as conditions which have made for previous periods of depression. In an effort to understand and solve the problems of the business cycle, the historical approach has been most commonly used, since it is believed that discovering what has happened in the past under conditions essentially similar to the conditions of the present situation will foretell to a great extent what is likely to happen in the future.

The principle of the environmental origin of problems may be expressed by the statement that all problems grow out of a specific environment and their nature is determined consequently by this environment. Hence, in order to find the fundamental problem at any given time, it is necessary to make an analysis of the environment out of which it arises. Furthermore, in order to determine the essential nature of the problem and solve it, it is necessary to analyze the environment out of which the problem has grown.

The principle of the environmental application of solutions recognizes the fact that the solution to any given problem must be applied in the environment out of which it has arisen. For example, in a marketing research it may have been determined that a certain type of incentive plan for salesmen will increase the efficiency of the sales force. Before such a plan is put in operation, however, the strength and weakness of the sales personnel must be clearly understood, because what might otherwise appear to be a sound solution may be of no practical value because of the peculiar make-up of the sales force under consideration. The sales personnel and organization of a company at any given time have been developed over a period of years, and the marketing researcher who does not recognize the strength and weakness of the sales organization as it stands at the time he has completed his analysis would be likely to make unsound recommendations. The general principle, of course, applies to all types of analyses.

In marketing research the historical method is employed to a certain extent through all stages of the work, but it is used more directly in the following :

1. *Market forecasting and the analysis of market trends.* All work in this field represents basically an application of the historical method.

2. *The situation analysis.* The primary function of the situation analysis is to analyze the environment out of which the specific problem or problems to be solved have arisen.
3. *Interpretation.* When the interpretive stage of the analysis has been reached, all of the facts used in the study have been found. This does not complete the analysis, however, for one is still faced with the question "What do these facts mean in terms of future policy?" In attempting to formulate a business policy on the basis of the findings of the analysis, one must be fully cognizant of the principle that the solution to a problem must be applied in the environment out of which the problem has arisen.

There are no logical limitations on the soundness of the historical method as a scientific procedure. Its limitations are primarily technical and rest largely upon the lack of sound quantitative measurement of historical facts. So long as the data used in a historical analysis are largely random observations, the materials are loosely woven and lack the precision of accurate quantitative measurements. The nature of the general limitations of the historical method as commonly used are indicated in the following statement:

General description and general narrative fall short in several respects of meeting the present demand for dependable analysis of social movement. In the first place, they lack precision. Secondly, since they cannot employ precise criteria of relevancy, they tend to select and emphasize particular elements and events which may be striking to the attention, but which are relatively unimportant from the standpoint of later interest. Present-day social scientists would exchange bushels of ancient annals of kings and bishops for a few more authenticated facts concerning such plebeian matters as roads, production, and peasant customs. Thirdly, and to much the same effect, description and narrative tend to deal with individuals rather than with mass situations. The latter may escape recording by virtue of the very fact of universality. Lastly, important relationship may be concealed from casual view, to be disclosed only when the methods of statistical analysis have been developed and applied.<sup>10</sup>

From this quotation it will be seen that the historical method is completely scientific only when combined with other methods, particularly with the statistical methods which provide the necessary quantitative measurement.

**The Inductive Method.**—The inductive method is a scientific procedure by which general conclusions are drawn from an adequate

<sup>10</sup> Stuart A. Rice, "The Historical-Statistical Approach to Social Study," in *Statistics in Social Study*, University of Pennsylvania Press, 1930, pp. 1-2.

number of properly controlled individual observations or cases. It is sometimes called the method of reasoning from the specific to the general. It is essentially the scientific method of making a generalization.

There are two methods of forming a generalization: by random observations of individual events, and by carefully controlled induction.

Generalizations which are made as a result of the random observations of individual events are not scientific and are subject to considerable error. In the first place, there is the limitation of one man's experience. Although business leaders are often men with amazing capacities for observation, it is impossible for any one person to see enough events to provide a sound basis for the many generalizations which are required for the successful conduct of a business. In the second place, the random observation of individuals is an unsatisfactory basis for generalization because subjective and emotional personal elements are always encountered. Man is essentially an emotional being, and his own feelings, habits, and desires are bound to color his observation. Third, the unusual and striking cases are likely to make a strong impression on the individual who observes them. Often the fact of relative unimportance is discovered under such dramatic circumstances that it assumes a mountainous magnitude in the thinking of the individual who has observed it. Fourth, there is a tendency for presumed facts to crystallize and to be repeated by individuals. This condition is commonly met in the reliance of the businessman upon the experience of others. As a result of supposedly "pooling" the experiences of different businesses, many habits and traditions have grown up. These traditions, in so far as they are not based upon sound scientific induction, assume a sanctity which brings them close to the folklore of savage people. Finally, the random observations of individuals do not provide a sound basis for generalizations because they do not involve quantitative measurements. Generalizations which do not involve sound measurement, and which are not stated in quantitative terms, are likely to be meaningless platitudes. One of the best examples of this is found in some of the principles of orthodox economics, which have in a large measure become merely redundant statements of the obvious. It is perfectly correct to state, for example, that other things being equal, a lower price on a commodity will result in an increase in the amount of the commodity which will be purchased. Such a statement is true but it is meaningless, for unless one knows *how much* of a reduc-

tion in price will produce *how much* of an increase in demand, no practical contribution has been made. There is an obvious need for the application of a sound inductive procedure which will provide these measurements.

The second way of forming a generalization is on the basis of carefully controlled induction. By obtaining a sufficient number of properly selected facts it is possible to arrive at generalizations which are correct and which will provide a sound basis for determining business policy. Practically all marketing researches involve the use of induction. If one wishes to determine whether people living in cities buy by mail order in sufficient volume to warrant the cultivation of such markets, it is generally recognized that the proper thing to do is to go to the people living in cities and determine the extent to which they are actually buying by this method. Instead of being moved in its business policy by isolated orders which come from people living in cities, or by exceptional individuals who may happen to make large purchases, the use of the inductive process based upon a survey of the proper number of persons will provide a precise measurement of the extent to which persons living in cities buy by mail. This, in turn, will provide a sound basis for arriving at a decision on business policy.

In spite of the universality of the inductive method in marketing and distribution research, one must not assume that it is the only procedure which must be employed. An attempt to operate solely upon the basis of statistical induction is, in itself, unscientific. Francis Bacon, who was the first great exponent of this method, contended that the essential function of science was to gather all the available facts and on the basis of them arrive at conclusions and principles. Bacon, himself, could not actually follow this procedure. No individual or organization can obtain all the facts which have a bearing upon a marketing problem. A marketing researcher must, therefore, be highly selective in fact gathering and obtain only those data which are relevant to his problem. Thus, other scientific methods must be combined with the inductive method, notably the deductive method.

**The Deductive Method.**—The deductive method may be defined as the procedure of arriving at sound conclusions from generalizations by the use of proper logical processes. It is the function of induction to provide sound generalization, and the function of deduction to draw sound inferences from these generalizations. For example, suppose that it has been found that 20 per cent of

the people living in cities have bought by mail within the past year, and that 70 per cent have bought by mail at some time or other. Assume that this is a sound generalization which has been arrived at inductively. We are still faced with the question, "What does this mean to the Jones Mail Order Company?" Shall the Jones Mail Order Company proceed to circularize the residents of cities in an effort to develop mail-order business? It is obvious that the mere statement of the generalization per se does not provide the interpretation which is essential to form business policy.

It is apparent that induction and deduction go hand in hand. Moreover, one does not first induce and then deduce; for after the first deduction it will be found that more facts are necessary before the problem can be solved. Further induction is then followed by further deduction. The process may be continuously repeated. One gathers facts and arrives at generalizations (induction), then from these generalizations he draws logical conclusions (deduction). Next the analyst gathers new data and makes new generalizations, followed by new logical conclusions. Whether induction precedes deduction, or vice versa, in a given problem, it is difficult to tell, and is of no more concern to the scientist than the argument as to which came first—the hen or the egg.

Sound deduction is essentially a matter of consistent thinking. The mind has been described as a thinking machine—like a calculating machine. The calculating machine works properly if it produces the correct answer each time that a given set of figures is fed into it. Whether the figures put in the machine are correct or not makes no difference; the machine is in proper working order if it always provides the same answer from any given set of figures that other machines in proper repair yield. So, too, with the mind and the deductive process. Deduction is not concerned with the accuracy or validity of a generalization from which it proceeds. If the mind arrives at consistent conclusions from given generalizations, it is making proper deductions. It is the function of induction to provide the correct generalization from which to proceed in drawing logical conclusions. To the researcher, therefore, induction and deduction must be coordinated properly, for the correct answer to the marketing problem can come only if the right figures have been fed into the machine, and if the machine is in proper working order.

In marketing and distribution research, deduction is used consciously in the interpretative stage. Having drawn statistical conclusions as a result of tabulation and analysis of the data which

have been gathered from the field or other sources, the researcher must interpret these results into business policy. Unfortunately, many make the mistake of assuming that the function of marketing research is solely inductive, and fail to use sound logic in arriving at recommendations for business policy. An analysis which merely states certain statistical findings about the market is an analysis which is only half done. If these facts are presented in their raw form to business executives, it will usually be found that many conflicting interpretations will be placed upon them. A researcher must be a logician who will take the facts as found and make these interpretations for the business. Interpretations must, of course, be sound and stand up against the criticism of hardheaded executives.

The use of the deductive method in marketing research is not limited to its conscious application in the interpretation stage. This method is used, incidentally, in other steps of the research, especially in planning the investigation. Before the final plan for the investigation is determined, a test study should always be made. After a small number of field interviews or observations have been obtained, the researcher must project the findings of the test investigation deductively to see if an analysis carried through on the basis of the test investigation will provide a basis for a logical solution to the problems at hand. Usually, such interpretation and deduction will indicate the need for changes in the plan, as a result of which further test data will be obtained. These are then projected deductively, again to make sure that the final analysis will provide a proper solution. This process must be repeated until finally a basic plan for the final study has been worked out and is put into execution.

It is an error to plan hastily and to arrive at conclusions which give no basis for sound interpretation and recommendation. It is much better to spend more time in the planning stage and to make deductions on the basis of small test investigations. The reason many so-called marketing researches are forgotten and the results never carried into actual business practice is that the analyst did not properly apply the deductive method in planning the major phases of the analysis.

**The Analytical Method.**—The analytical method is that procedure which breaks up the gross and complex facts of observation, which are often too varied to be understood, into smaller, homogeneous facts. A market is made up of thousands or millions of



persons who are similar to a degree, but who have many different habits, interests, and desires. Considered in its entirety, the market for a product is entirely too complex to be understood by even the most penetrating mind. By the analytical process, it is possible to break a market down into various elements, such as age groups, sex groups, or geographic units, each of which is sufficiently homogeneous to be comprehended and evaluated.

The value of the analytical method as a procedure which clarifies a complex marketing situation is shown by a breakdown of a large city. The Bureau of the Census now divides large cities into small areas, known as *census tracts*, and collects and analyzes market data on each tract or group of tracts. Cleveland, Ohio, for example, has been divided into 321 sections, each of which is equivalent to a village of 4,200 inhabitants. Facts are now available for these small units to show the rental value of homes; whether or not the families own automobiles; where families live who have electric refrigerators, bathtubs, stoves, and furnaces; how they go to work; the physical conditions of their homes; the sizes of their families; and how they cook.

The best example of the analytical method will be found in the chemistry laboratory. Suppose that a chemist wishes to study a new food product which has been submitted to him. By observing the product he is able to obtain the gross facts which are perceivable by the senses. He can detect its odor, its color, its texture, and a few other general characteristics. But it is impossible to determine its composition except by analysis. By the analytical process, the various chemical elements which make up the product can be separated so that he can determine the amount of each which it contains. It then becomes possible to duplicate it or to find methods of improving it.

The whole procedure of marketing research is essentially analytical in nature. The analytical method, however, is used most directly in the situation analysis. Sales data and market information are broken down into fine divisions in order that the procedures to be employed in solving the central problems may be determined. Gross facts regarding the market are broken down into fine classifications in order to provide an understanding of the essential nature of the market.

In the informal investigation, the analytical method is employed by questioning consumers and dealers in order to determine the various elements which affect the sale of the product. The informal investigation is an important diagnostic stage, and this diagnosis

consists essentially in probing deeply to determine the essential elements in market demand.

The method is also used in planning the investigation. In this step the bases of the analysis to be used in the field investigation are determined. Whether marketing facts will be grouped primarily on race, occupation, standard of living, or other facts must be determined. The selection of the proper bases of analysis is vital to the success of the study.

**The Experimental Method.**—The experimental method is essentially the procedure of carrying out on a small scale a trial solution to a problem. This solution is usually arrived at by holding constant all elements which affect the result except the one being measured, which is varied. For example, suppose a chemist wishes to determine the effect of various degrees of temperature upon sulphur. It is not necessary that he study the effect of temperature on all of the sulphur which he can possibly obtain. By a carefully controlled experiment with a very small quantity, he can arrive at a conclusion as to the probable effect of variations of temperature upon any given quantity of sulphur at any time. In conducting the experiment, the chemist would procure a small quantity which has the characteristics typical of sulphur in general. He would then take small quantities of his test sulphur and apply different degrees of temperatures to each, recording the results with care. In this experiment since the element being measured is the effect of temperature, he varies the temperature in order that he may have measurements at all significant levels. All other variables which might affect the result must also be controlled properly. These include all conditions, such as atmospheric pressure, humidity, and other factors in the experiment, which might affect the sulphur.

An example of the application of the experimental method in marketing research is the use of sales area tests of advertising. Instead of conducting a general advertising campaign and learning of its effectiveness after the money has been spent, it is possible to conduct small-scale tests within restricted areas and determine the sales power of the advertising. By using the experimental method in this manner, the weak elements will be revealed and poor campaign ideas may be abandoned. There are many other cases in marketing research in which the experimental method may be used, but the test advertising campaign is one of the most clear-cut examples.

The logical assumption of the experimental method is that the conditions of the test are essentially the same as the conditions

which will be found in the "universe" or in the total operation to which the conclusions drawn from the experiment are to be applied. Obviously the conditions need not be identical, but they must be similar in all essential elements. Even in the analyses which are made in the physical laboratory, all the test conditions are not identical with those which will be met in the commercial field. For example, after chemists have made experiments which have developed a new type of motor oil, it may be found when actual production is started that certain conditions which were not present in the experiment will arise. In large-scale production, involving large quantities of materials and machinery which are crude as compared with the finer and more accurate equipment of the chemical laboratory, these new elements will be encountered. Sometimes there is so much difference that further experimentation is necessary to adjust the process to the requirements of large-scale production.

It is important to the marketing researcher to realize that the conditions under which the experiment was conducted and those under which the results are applied will never be found to be identical. On the other hand, one must constantly keep in mind the logical assumption that the conditions of the test must be essentially the same as the conditions under which the results of the tests are to be applied.

In many respects the experimental method is the most scientific of all procedures. From the time of Aristotle it had been assumed that two falling bodies approach the earth at speeds in direct ratio to the weight of the bodies. This assumption had been laid down as a scientific law by Aristotle and had been defended for centuries. Galileo did not believe this law to be true. He dropped two balls of different weights from the top of the leaning tower of Pisa. The two balls reached the earth at the same time, and a new law was developed by the experimental method. His ecclesiastical superiors considered this demonstration an attack on authority and had him excommunicated. Galileo's experiment, however, went far beyond the mere development of a single new scientific law. It may be regarded as the origin of the experimental method in science, and with his work the foundation of true scientific method may be said to have been laid.

To many, the experimental method is the only true method of science. However, it should not be assumed that this method must be employed to make an analysis scientific. There is genuine danger of going through the form of an experiment without an adequate

control of variables. An experiment which does not recognize the logical assumption of the experimental method, and which is not properly controlled, will produce results which are unscientific and unsound. The proper use of the experimental method in marketing research and some of the dangers to be avoided are discussed in the next chapter.

### The General Techniques of Special Scientific Fields

**Statistics.**—Of all the various social sciences which have developed special techniques, none contributes to marketing research so directly or so extensively as statistics. The study of statistics is concerned chiefly with the methods of collecting and using numerical data in order to understand various types of problems. In statistics, the principles which govern the analysis of quantitative data are stated, and the various techniques for such analysis are reduced to a workable basis. Since marketing and distribution research deals with persons and marketing phenomena in the aggregate, these techniques for analyzing quantitative data play a primary role in marketing research methods.

The subjects with which statistics deals indicate clearly the importance of its techniques as a basis for marketing research. The field embraces such matters as the collecting and editing of data, classification, tabular and diagrammatic presentation, averages, and correlation.

The common use of the phrase "statistical induction" indicates that the field of statistics is of primary value to the marketing researcher in introducing the inductive process into his work. The techniques of statistics are in a large measure those which provide a method for insuring that data are collected in the proper manner to provide the basis for the generalizations representing the end product of induction.

A second important phase of statistical method is the development of the proper technique by which these data may be grouped into sound generalizations. Classification, frequency distributions, averages, and methods of tabular and graphic presentation shape these generalizations into their most usable form.

In view of the predominant position of statistics in marketing research, it is important that a word of caution be given. The statistical importance of phenomena is determined solely by the preponderance of sheer quantity. If it is found, for example, that 3,000 persons prefer a blue color in a product, while only 1,000

prefer a red color, and only a small number prefer several other colors, statistics indicate that the desire of the market is for a blue product. This is a useful and important fact. Nevertheless, it is obvious that one should not blindly conclude that the company should produce only a blue product. In such a case it appears clear that the product should be offered in at least two colors in order to obtain a maximum acceptance on the part of the market. Statistics have served a very useful function, however, in indicating the relative importance of the colors which should be employed, and the fruitlessness of attempting to provide the product in too many other colors.

**Accounting.**—Accounting deals with the recording and analysis of all facts which have a bearing on the financial aspects of a business. The facts recorded and analyzed embrace those concerning the external transactions of the company with other firms and individuals and the internal operations which are subject to financial record and analysis.

It is the function of accounting to give and interpret accurate, up-to-date information on what is happening in the business that affects its financial position and profits. Many of these transactions involve sales, advertising, and other marketing activities; hence, the work of the accountant is, in many respects, of primary importance to the marketing researcher. Many of the techniques developed in accounting, especially those for the analysis of marketing transactions, may be employed directly.

With the increasing complexity of business and the small margins of profit upon which most firms must operate, a specialized field of accounting, which is of particular interest to the marketing researcher, has been developed. This is the field of cost accounting. Cost accounting was developed first as a special procedure for determining the unit cost of goods produced, such as the cost of a barrel of tar or the cost of an automobile.

With the increasing importance of marketing functions and the recognition on the part of businessmen that this field probably contains much more waste than is found in production, cost accounting for marketing operations is developing rapidly. The following statement indicates some of the ways in which the method has been employed in this field:

. . . Standard costs are being applied to the field of distribution as well as manufacturing. Frequently, costs may be set for the various operations in warehousing, cash collecting, advertising, order getting, and delivery in the

### FORMULA FOR CALCULATING PROFITABILITY OF PROSPECTIVE ACCOUNT

(Unit expenses are furnished for illustration only; each company should study its own results and develop the corresponding costs for its own use.)

#### Expense of Handling Account

**Order taking:**

\_\_\_\_\_ Salesman's personal calls @ 40c each ..... \$ \_\_\_\_\_  
 \_\_\_\_\_ Salesman's phone calls @ 12c each ..... \_\_\_\_\_  
 \_\_\_\_\_ House calls by customer @ 30c each ..... \_\_\_\_\_

**Delivery:**

\_\_\_\_\_ Deliveries @ 40c each ..... \_\_\_\_\_

**Packing, loading, and sales bookkeeping:**

\_\_\_\_\_ Sales tickets @  $2\frac{1}{2}$ c each ..... \_\_\_\_\_

Plus \_\_\_\_\_ items @ 8c each ..... \_\_\_\_\_

**Credits and collections:**

Flat charge for each account (60c) ..... \_\_\_\_\_  
 Plus allowance for bad debts based on estimated sales volume  
 (less than \$25, 2%; \$25 to \$200,  $\frac{1}{2}$ %; more than \$200,  $\frac{1}{10}$ %) . \_\_\_\_\_

Subtotal of direct costs ..... \_\_\_\_\_

**General overhead:**

\$ \_\_\_\_\_ of sales @ \$1.25 per 100 ..... \_\_\_\_\_

Total of all expense applicable to account ..... \$ \_\_\_\_\_

#### Profit Computation

Estimated Sales Volume per month: Lb. .... \$ \_\_\_\_\_

Per Cwt. Margin \_\_\_\_\_ Expense \_\_\_\_\_ Profit \_\_\_\_\_

**Figure 16. Application of Cost Accounting Technique in Marketing Research**

In addition to illustrating the nature of the cost accounting formula, the example shows the application of the principle of unit costs. For an explanation of the method by which the formula was developed, see: Howard C. Greer, *The Cost of Handling Small Orders and Accounts* (Institute of American Meat Packers, undated), p. 21.

same way as for production and standard costs may be even more useful for a Sales Department than for a factory. Besides being useful in setting selling prices and in determining whether actual performance is satisfactory, they may have very important use in the decision of which of several sales methods to use. Most sales managers have a number of methods by which they can sell their products; they can send out salesmen, or sell by direct mail, or open a local store, or sell through a jobber. By predetermining the cost and probable income from each of his options, it is possible to decide which one presents the best possibilities. This predetermination is a real aid in planning.<sup>11</sup>

The marketing researcher is in a position to use the excellent techniques which have been developed for cost accounting. The cost analysis made for dealers by the Coca-Cola Company and the studies by the Dennison Manufacturing Company are examples.<sup>12</sup>

**Engineering.**—That engineering science has many techniques which are of value to the marketing researcher is attested by the large number of persons with engineering training who play important parts in marketing and distribution research today. In the past the chief emphasis in industrial engineering has been on the production side, especially in the field of technical product research, and in the reduction of costs in manufacturing processes. With the general rise in the importance of marketing, however, engineers have turned their attention more and more to the problem of devising more efficient methods of marketing.

Engineering as a subject concerns itself primarily with the application of the basic principles and laws of the exact and physical sciences, such as mathematics, chemistry, and physics, to the specific problems of the many specialized fields which it embraces. The techniques developed by the industrial engineer are of primary value to the marketing researcher.

Existing industrial engineering techniques may be said to have developed essentially from two basic principles—the getting of more and better facts, and the relation of these facts to costs. Definite techniques and procedures are developed to solve the special problems faced by the engineer. Such problems as planning, performance, standards, methods of control, and simplification have led to the development of these techniques and of a personnel trained in meeting such situations.

<sup>11</sup> C. M. Gillespie, *Accounting Procedure for Standard Costs*, New York, The Ronald Press Co., 1935, pp. 12–13.

<sup>12</sup> For an exposition of cost accounting procedure applied to marketing research, see J. Brooks Heckert, *The Analysis and Control of Distribution Costs*, New York, The Ronald Press Co., 1940, Chs. 2, 3, and 20; Herman C. Nolen and Harold H. Maynard, *Sales Management*, New York, The Ronald Press Co., 1940, Chs. 24, 25; and Paul H. Nystrom, Ed., *Marketing Handbook*, New York, The Ronald Press Co., 1948, pp. 1165–1169.

Among these special techniques, the most valuable to the marketing researcher are those employed in time and motion study. As a basis for the elimination of waste, the analysis of time and motion involved in different operations has proved most productive. The researcher who is familiar with the methods employed in reducing costs and eliminating waste from production has a clear advantage in attempting to perform similar functions in marketing operations.

**Psychology.**—A definition of the field of psychology which would be rather generally accepted is that psychology is a study of human behavior. Unfortunately, the field has undergone such great transition in recent years, has been marked by so many arguments regarding definition and the various concepts employed in psychological study, and is filled with so many small compartments of specialized psychological inquiry, that it is very difficult to understand the exact nature of the psychological approach. One of the classic arguments in psychology has been developed because of the problem of the mental as opposed to the physical approach. In earlier years, psychology was regarded primarily as a study of the human mind. This approach was attacked largely on the basis of a disbelief in the existence of mind, free will, and consciousness as basic motives in human behavior. With the rise of the so-called "behavioristic psychology" greater emphasis was placed on the physical aspects of behavior, with the result that there is a large branch of psychology which is called "experimental psychology." In a large measure it entirely disregards the mental aspects and attempts to provide a purely mechanical explanation of behavior.

A marketing researcher is, of course, not interested in the more metaphysical aspects of these problems. What he seeks is a usable basis for analyzing human behavior; whether an analysis from the mental or the physical point of view is philosophically more sound is of no concern to him. He prefers to disregard this issue and to learn all the techniques which may be of value in making it possible to study human behavior.

The chief contribution of psychology to marketing research is in the provision of techniques for analyzing the basic and more fundamental motives which lie behind market behavior. The potential contribution of psychology to marketing research is well indicated in the following statement:

We recognize fully the present limitations of psychological knowledge. We are not able to offer it as an adequate answer to the market research



man's prayers. All that we are suggesting is: first, that market research needs general, orienting, intellectual technique, even more at the present time than it requires everyday digging tools; and second, that these larger techniques are supplied in a considerable part, though not at all exclusively, by psychology. We suggest simply that a systematic view of how people's market behavior is motivated, how buying decisions are arrived at, constitutes a valuable aid in finding one's way around a thousand and one questions of specific procedures and interpretations in market research. This need for a psychological view grows out of the very nature of market research for that research is aimed predominantly at knowledge by means of which to forecast and control consumer behavior. . . . Sales opportunities exist—or fail to exist—in people's minds. Hence, the task is essentially psychological.<sup>13</sup>

The psychologist has developed many technical research procedures which are of great value to the study of market behavior. From those psychologists who take a more mechanical point of view, we may obtain techniques for recording the facts of market behavior as they are expressed in action.<sup>14</sup> From those psychologists who emphasize the motives behind behavior, we may obtain special techniques which are particularly valuable in appraising the psychological factors which lie behind the observed facts of market behavior.

**Sociology.**—The distinction between sociology and psychology is not so sharp as it was when the field of psychology was restricted primarily to a study of the individual. Sociology, however, emphasizes the analysis of behavior as it is affected by social groups and social relationships. It is obvious that studies of the persons who compose markets must be made primarily in terms of groups and social units. Furthermore, as most marketing activities are directed at groups, the marketing researcher is interested in individuals only in so far as they give him a clearer understanding of group behavior. Marketing and advertising campaigns, for example, are universally directed at people in the mass. Since in most cases it is necessary to determine the marketing policies which will be most effective in obtaining a response from millions of people, it follows that the primary concern of the researcher must almost always be with people in the mass or the social group rather than the individual.

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<sup>13</sup> Arthur Kornhauser and Paul Lazarsfeld, "The Techniques of Market Research from the Standpoint of a Psychologist," *American Management Association, Institute of Management Series* 16, 1935, pp. 4 ff.

<sup>14</sup> For an example of the application of psychological techniques to the specific marketing research problem of a greeting-card manufacturer, see "Psychology Offers New Product, Copy Testing Technique," *Advertising Age*, October 6, 1947.

The following statement indicates the nature of the phenomena which are the primary concern of the sociologist.

Broadly speaking, sociology deals with the behavior of men in groups—a group is any collection of two or more individuals who carry on social relations with each other. Group behavior depends not upon the mere presence of men together, but upon their interaction. . . . In stimulating each other and responding to each other, men develop common modes of thinking and acting. These we call custom, tradition, or mores. More specifically, these include the regulations governing conduct and approved ways of acting, the manners and fashions of a group, and the whole range of social belief, values, convention, social rituals, and the technique of living.<sup>15</sup>

The major contribution of sociology to the field of marketing research lies in its analysis of cultural environment and change. It has been argued that sociological interpretations of many aspects of human behavior are much sounder and more revealing than psychological interpretations. It is claimed that behavior is determined less by the individual's preferences, sentiments, and feelings than by the general cultural pattern in which he fits.<sup>16</sup>

Sociology has developed many techniques which may be used by the marketing researcher in his work. Of these techniques there is one which is of especial interest, the social case work method.

The technique for obtaining the information which must be secured in order to make a proper diagnosis of an individual or family situation will be found especially valuable to a marketing researcher. Complete outlines for a social case history have been prepared. A study of outlines of this type, and the various techniques used by social case workers, is especially useful in revealing the necessity for going beyond broad statistical data and obtaining comprehensive information about individuals who make up the market in order to get the "feel" of marketing problems.

An example may be cited from an analysis of the market for a certain health product. Many researches had been made in this field but none provided a sound foundation for business policy. The customary survey was supplanted by a relatively small number of comprehensive interviews with individuals, conducted in the penetrating and informal manner with which the social case worker proceeds. As a result, habits, attitudes, and other elements which

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<sup>15</sup> Kimball Young, *An Introductory Sociology*, New York, American Book Co., 1934, p. xiii.

<sup>16</sup> Leslie A. White, "Culturological vs. Psychological Interpretations of Human Behavior," *American Sociological Review*, December, 1947.

had a vital bearing upon the market for the product in question, and which had been entirely missed in the more usual type of marketing research, were discovered. This "case history" approach gave an insight into the real condition of the market, and resulted in the elimination of many superficial factors which for years had been assumed to be important, the development of sound hypotheses, and a new procedure for making a more general analysis which yielded fruitful results.

## CHAPTER 15

### BASIC MARKETING RESEARCH METHODS

Since marketing and distribution research is nothing more nor less than the use of scientific method in the field of marketing, it must be firmly rooted in the basic methods of science. One must recognize, however, the important distinction between scientific method in a theoretical and general way, and applied science. When one attempts to apply general scientific method in a specific field, borrowing techniques which have been developed for other purposes, he must make many adjustments. The chemist, for example, relies largely upon the experimental method. But in solving the specific problems of chemistry, he must adapt the general method to the specific requirements of the materials with which he must work. So, too, the biologist frequently employs inductive data, using statistical techniques. But he also must make adaptations necessary for the handling of biological data.

The marketing researcher is confronted with many special problems in the field with which he works. He deals with human beings in their economic relationships. He faces a far-flung market, composed of millions of buyers, each making many choices. He deals with a complex marketing structure, designed to bring thousands of competitive products to the market most efficiently. He deals, above all, with human relationships, with fickle desires but forceful opinions. The direct procedures, the exact measurements, and the test tubes of the physical sciences are not at his command. But he must be ever alert that the basic principles of scientific method are not violated in their application to his field.

The fundamental methods of marketing and distribution research are the survey method, the observational method, and the experimental method. These techniques vary greatly in their approach and relative accuracy, and may yield different results when applied to the same problem. In many studies any of the three methods may be used, so that the analyst is usually faced with the necessity of deciding which one is to be employed. Since the results depend in large measure upon the basic method used, it is

important that the logical assumptions and implications of these techniques be thoroughly understood.

### The Survey Method

In the survey method data are gathered by asking questions. This is sometimes called the questionnaire technique. The essential element in the survey method is that the data are furnished by an individual in a conscious effort to answer a question.

An example of the use of the survey technique in marketing research is a consumer investigation to determine which of two types of packages is the better. If an investigator shows representative consumers two or more types of packages and asks, "Which of these packages do you prefer?" he is employing the survey method. Note that the investigator asks the question directly so that the respondent must make a conscious effort to reply, and that the data upon which the entire subsequent analysis rests are thus given.

The survey method is the most widely used technique in marketing research. Some people go so far as to regard the questionnaire technique as being synonymous with marketing and distribution research. Unfortunately, many analysts use the survey technique when the observational or experimental method would be more scientific.

The survey method is used in the three following general forms: factual surveys, opinion surveys, and interpretive surveys. The distinction among these three types is important because there is a difference in the scientific accuracy of information obtained by these forms of the questionnaire method. In a factual survey question, the position of the respondent is different from his position in an opinion survey question. Also, different techniques are required to obtain information properly by each of these variations of the survey method.

It is legitimate to combine questions of all the three different types in a single questionnaire. The important thing to remember, however, is to recognize the category into which any given question falls, and to make sure that the question has been correctly developed in the light of its basic nature, that is, whether it is a factual question, an opinion question, or an interpretive question.

**Factual Surveys.**—In a factual survey, the respondent acts merely as a reporter. An example is a survey which asks, "What brand

of soap do you use?" In this case the respondent simply reports the brand of soap which he uses. The nature of the factual survey is further illustrated by the following questions: "How much did you pay for your radio?" "At what store do you buy most of your groceries?" "How old is your automobile?" "How large a trade-in allowance did you receive on your old washing machine?" "What brands of canned soups do you carry in stock?"

When the survey method is employed in this form, its results are subject to many errors. These include the errors of memory, the inability to generalize, the desire to make a good impression, and various human tendencies which bias the report. Since a human being is reporting an action of himself or his family, many errors are bound to be injected into the data obtained.

As a result, wherever the survey method is employed in its factual form, one must be especially careful to observe all the fundamental principles of sound questionnaire construction, which are discussed in detail later in the book. It is also important in interpreting the results of factual surveys to recognize all the limitations of the consumer, dealer, or other respondent as a reporter.

While the survey method in its factual form presents problems, they are not nearly so serious as those encountered in opinion or interpretive surveys. Furthermore, no special technique is required to handle the factual survey method properly, provided that the general principles of questionnaire construction are followed.

**Opinion Surveys.**—In these surveys the respondent is asked to express a personal opinion, to make an evaluation or appraisal, or to report his judgment on a particular matter. The respondent ordinarily does not realize that he is expressing an opinion, but on the other hand usually believes that he is making a statement of fact. Unfortunately, researchers frequently believe that they are obtaining facts when they actually are merely obtaining opinions. This confusion may be avoided if one obtains a clear understanding of the nature of an opinion survey.

An example of an opinion survey is one in which consumers are shown several alternative patterns or designs of a product and are asked, "Which design do you think is the most beautiful?" Silverware manufacturers constantly employ the opinion survey method because they have a wide variety of patterns which may be offered to the public. The artists and craftsmen design new patterns. The research departments then show models of the different designs to selected groups of women, to obtain the reaction of the market to them.

Naturally the opinion survey is used very extensively in marketing and distribution research. It is employed to reflect consumer attitudes, in order that the marketing operations of the business may be planned in the light of a clear understanding of consumer attitudes and beliefs. The method is also used extensively in product analysis. Manufacturers learn how to meet the requirements of the market by obtaining consumers' likes and dislikes of different brands or of test models. Opinion surveys are frequently made in sales and dealer analyses to learn the attitudes of salesmen and dealers toward the company, the products, and sales methods. The consumer-jury method in advertising research is another example of the use of the opinion survey.

It has been pointed out that businessmen and researchers frequently fail to differentiate between a factual survey and an opinion survey, with the result that the findings of opinion surveys are taken to represent facts. There is another common mistake in the use of opinion surveys which should be avoided. This is the error of employing the wrong techniques for obtaining the respondent's opinion or appraisal. In addition to general, or "open-end" opinion questions, there are various techniques of controlling opinion answers, which frequently lead to more precise results. This mistake is so frequently encountered because a large number of persons engaged in marketing research are not aware of the fact that there are at least six different techniques for obtaining opinions. Sometimes the data obtained by these different approaches in any given situation will be equally satisfactory, but ordinarily there will be significant differences in results because of the methods employed.

It is not possible within the scope of this book to discuss the various techniques of opinion analysis in detail.<sup>1</sup> The nature of the methods for obtaining controlled opinion data in most cases is indicated by the names, which are shown below :

1. The first-choice technique.
2. The last-choice technique.
3. Combination of first and last choice.
4. The ranking technique.
5. The objective scale technique.
6. The objective standard technique.
7. The paired-comparison technique.

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<sup>1</sup> See Chapter 11, pp. 203-205, and Chapter 3, pp. 55-60. Some of these techniques are discussed from a theoretical psychological point of view in Albert T. Poffenberger, *Psychology in Advertising*, New York, McGraw-Hill Book Co., Inc., 1932, pp. 104-128.

**Interpretive Surveys.**—Here, the person being interviewed acts as an interpreter as well as a reporter. An example of such a survey is one which asks, "Why do you use this brand of soap?" In this case the researcher relies upon the person interviewed for much more than mere reporting or statement of opinion. The answers obtained to questions of this type are subject to all of the limitations of the answers to factual and opinion questions, plus the

CONSUMER BUYING HABITS SURVEY				
	1	2	3	4
Article	In what store did you last purchase each article?	What was the main reason for your buying there?	If you were to buy a similar article today, where would you shop first?	AND why would you change? (to be asked only if store in Col. 3 differs from store in Col. 1).
Silk Hosiery				
Woman's Cloth Coat				
Sheets or Sheetting				
Lingerie				
Woman's Shoes				
Drapes				
Man's Shirts				

Figure 17. Part of a Questionnaire Used by a Retailer Which Illustrates the Survey Method in Its Three Basic Forms—Factual, Opinion, and Interpretive

inability of an individual consciously to evaluate his own feelings, motives, and other psychological drives. Even if the person interviewed can introspect effectively, the information sought is of a much more personal and intimate character than that which is usually asked when a factual survey is made. All of these elements combine to make the use of the survey method in the interpretive form the least accurate of all procedures in market analysis.

There is a considerable difference of opinion as to the value of interpretive surveys. The prevalence of questionnaires asking *why*



people do certain things, such as why particular brands of a product are bought or why certain types of stores are patronized, indicates that the majority of researchers are inclined to accept the results at their face value.

Psychologists have focused attention on the large number of meaningless and confusing answers encountered whenever "why" questions are asked.<sup>2</sup> In order to overcome this difficulty they have attempted to devise new methods of phrasing questions. For example, instead of asking, "Why do you use this brand?" they ask, "Why did you begin using this brand?" and "What feature of this brand appeals to you most?"

The problem of interpretive surveys cannot be solved by simple changes in the phrasing of questions. It is not a problem in questionnaire technique, but rather a fundamental problem in method. The danger of relying upon phrasing is illustrated by the use of the question "What caused you to begin using this brand?" as a means of obtaining a measurement of the relative importance of external influences, such as advertising and dealer display. In interviewing users of mouthwashes, for example, the majority of respondents would reply on the basis of conditions existing three, four, and five years ago, which may or may not be of value at the time the survey is made. Because of the difficulties of obtaining accurate and usable information on such subjects as buying motives by interpretive surveys, many researchers have abandoned such attempts.

The central problem of the interpretive survey is the elimination of meaningless and vague responses on the part of persons interviewed. For example, taking the first answer to a question which seeks to determine a buying motive, regardless of how the question is asked, may not reveal the true motive.

The writer has employed with success a method of depth interviewing which involves a series of questions asked by a specially trained interviewer. The questions cannot be predetermined, except in a general way, and will vary for the same survey with different respondents. The interviewer begins by asking a direct question, "Why do you buy this brand of —?" The response to this question is treated not as an answer, but as a basis for a further question. For example, in a study to determine buying motives for automobiles, the respondent might first reply, "Because my neighbor has one." The investigator would then begin a series of

<sup>2</sup> See Paul Lazarsfeld, "The Art of Asking Why in Marketing Research," *National Marketing Review*, Summer, 1935, pp. 26-38.

questions like, "What did your neighbor tell you about the car?" "When did you talk to him about it?" "How did you happen to go to the sales room?"

Usually the first response to the general "why" question is a very vague, all-inclusive answer. Gradually the interview reaches more specific points, and eventually an adequate case history is built. The investigator must recognize the meaning of each answer and lead the interview into more and more productive fields. Mechanical statistical analysis of the results of such surveys must usually be foregone in favor of careful interpretation of a series of such case records. This form of depth interviewing should not be undertaken unless fully adequate facilities in time, money, and research personnel resources are available. The researcher must also be prepared for the possibility of running into a blank wall, and he must have the courage to recognize such a situation when it exists in a particular study. Some of the weird results of depth-interview research of buying motives arise because the researcher attempts to force a successful conclusion, when he should, as one sometimes must in all science, recognize that the investigation was unsuccessful.

Many different approaches have been made to the problem of getting at the "why" of marketing behavior. Psychologists may rely heavily on the use of word-association techniques or intensive depth interviewing of special panels or consumers. Sometimes these studies produce amazing results, such as finding that the man or woman who chews gum is one who "has the courage to be unconventional."

Still another approach to the problem of the interpretive survey is the use of an entirely negative procedure. The thought behind this attack is that persons cannot tell accurately why they do certain things, but that they can often tell why they do not do them. For example, while a person who has recently bought a Plymouth automobile cannot tell the real reasons why he bought a Plymouth, he can provide definite reasons why he did not buy a Ford, Chevrolet, or other make. By a cross-analysis of a series of negative reports furnished by buyers of different makes of automobiles, one can arrive at a sound understanding of certain buying motives. In applying this technique in the field, investigators are instructed to ask first, "What brand of — do you have?" Next, "Did you consider buying another make?" And finally, "Why didn't you buy it?"

It should be emphasized at this point that the various approaches to the problem of obtaining psychological data through interpretive surveys are definitely in the experimental stage. The results of any of the present approaches must be used with extreme caution. It probably represents better judgment to rely upon carefully handled and interpreted conclusions arrived at by the use of other methods, such as factual surveys and the observational and experimental methods. The application of the experimental method through the use of test advertising and selling campaigns, for example, appears to be one of the most promising approaches to the problem of consumer buying motives.

**The Panel Technique.**—Applications of the survey method may also be classified in terms of whether a single interview is used or whether the same respondents are interviewed a number of times on the same subjects. The latter procedure is known as the panel technique.

Participants in the panel are selected on the basis of regular sampling procedures. Their willingness to act as respondents in the research for an extended period of time is determined before any research data are obtained. Panel data may be obtained through personal interview or by mail. Participants, except in panels which are used to study subjects in which they have a vital personal interest, are usually secured by offering them cash payments or premiums for their cooperation.

There are, at present, two panels of consumers operating continuously on a national scale and offering their results to different manufacturers on a syndicated basis. Some manufacturers operate their own panels on a limited scale. Newspapers and some retailers, particularly large chain organizations and department stores, now use panels extensively, and a number of new ones are projected for future operation. Advertising agencies also operate consumer panels, an example being that of the J. Walter Thompson Company.

The most common form of panel consists of a group of consumers who report purchases and other marketing data at regularly stipulated intervals. In addition to consumer panels, there are studies employing dealer panels, panels of executives, panels of experts, and panels for public opinion research. Panels are also used in radio research, particularly in connection with audience measurement by means of mechanical devices which record the use of radio sets and diaries in which radio listening is entered. No matter what the composition of the panel, its essential characteristic



is that the same group of persons is interviewed, either by mail or by personal interview, over a period of time.

Of course, no panel is literally composed of the same individuals throughout its existence. In addition to the natural mortalities of deaths, removals, etc., many panel members lose interest and drop out. One of the chief problems of panels, particularly those which attempt to maintain a continuous sample of the national consumer market, is the turnover of panel participants. Substitutions must be made from time to time, with utmost care taken that the sample proportions of various geographic areas, family characteristics, etc., are maintained.

**CONSUMER PURCHASE PANELS.**—Consumer purchase panels are maintained primarily in order to obtain basic marketing survey information. The most common types of data acquired are illustrated by the following questions:

“How many units of a specified product did you buy during the reporting period?”

“How much did you pay per unit?”

“What brand did you buy?”

“What size package, what style or design of that product did you buy?”

“Where did you make your purchase?”

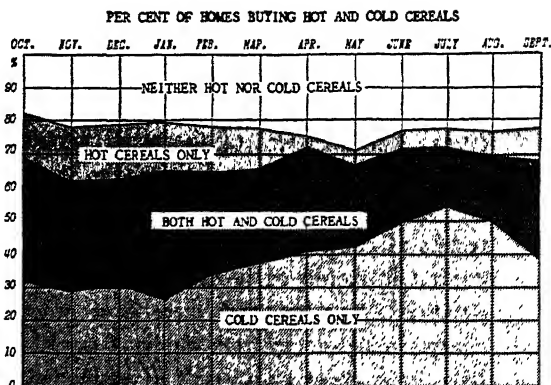
In addition, many more questions are usually asked, although there is considerable skepticism as to the accuracy of the data obtained when too many questions are asked. Other subjects often included concern newspapers and magazines read, radio programs heard, and general questions regarding other family habits and activities. Sometimes questions such as “If you made a change in brand preference, please state why the change was made,” and “What and how much do you expect to buy during the next reporting period?” are asked.

**ADVANTAGES OF PANEL RESEARCH.**—Panel research has its own particular characteristics which differentiate it from other applications of the survey method. There are five features of panel studies which can provide real advantages in marketing research:

1. A panel provides a continuous record of the behavior of the individuals comprising the panel. Thus it is possible to make special behavior studies, such as studies of brand loyalty, which cannot be made accurately by one-time interviewing. Furthermore, the data

## RELATION of TRENDS

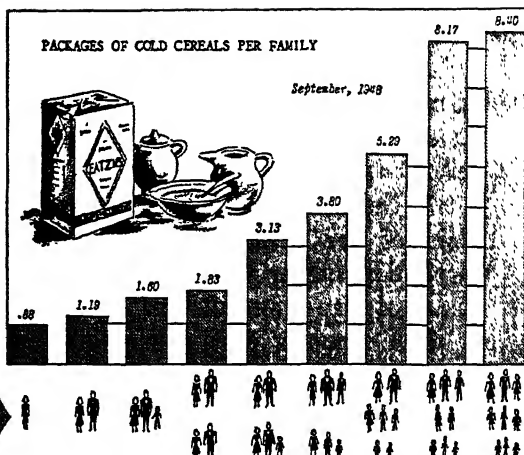
There are many pairs of grocery product classifications that tend to complement each other in seasonal trends. It is interesting to note, however, that these trends are not often in exactly inverse ratio. Typical in this respect is the seasonal comparison of hot and cold cereals, in which duplication is relatively high in all of the months, and the lead of cold cereals is continually maintained in both per cent of homes buying and number of packages bought.



## BUYING EFFECT of FAMILY SIZE

It is obvious that size of family has a greater effect on volume in some product classifications than in others. A typical example is the comparison of coffee and cold cereals on this basis. Note how coffee purchase volume actually declines among the extra large families, while cold cereals continue to gain in each step-up in family size. Any other pair of classifications that appeal differently to adults and children will also offer similar contrasts.

**Persons per Family** ➡



Actually, it is highly probable that no two classifications in the Panel would step-up in the same ratio as family size is increased. For instance, the use of hot cereals at an earlier age would indicate a different degree of step-up than cold cereals. Canned milk, used both for adults and children will not increase with family size to the same degree as canned baby food. Many such interesting comparisons are possible by cross checking other Consumer Panel classifications on family size.

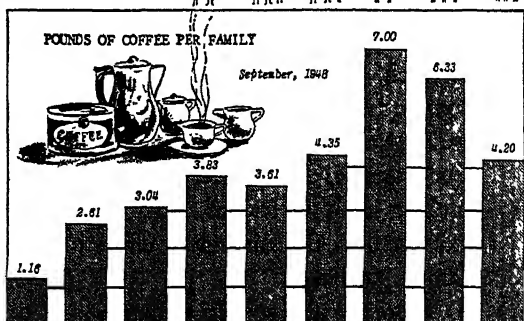


Figure 19. Findings from a Consumer Purchase Panel

These illustrations indicate how consumer purchase data may be analyzed in various ways, in addition to the basic findings on brand position. (From report of Cleveland Consumer Panel, the *Cleveland Press*, 1949)

acquired are based on the continuous record of the respondent's behavior rather than on his memory.

2. A panel provides opportunities for measuring changes over a period of time, as well as changes brought about by specific influences. The members of the panel actually may serve as "guinea pigs," whose behavior in response to various influences may be observed in much the same manner as the biological scientist observes results of controlled feeding or applications of drugs. In this connection it should be borne in mind that marketing influences are extremely complex, and there is a great temptation to attribute change in a panel to some single element. Actually the change may have come about as a result of many factors, some of which may not even be known to the researcher. An example is the attempt to measure the influence of advertising on family purchases.

3. A panel may offer special opportunities for deep-probing analysis. Since the panel participants have established their willingness to cooperate, and proved this willingness by their continued presence in the panel, the "stranger" influence present in one-time survey interviews is eliminated.

4. The panel technique has some advantages from a sampling point of view. Since the group being used is a relatively stable population, smaller numbers are required, particularly for measurements of change through time.

5. A consumer panel obtains information on buying from all sources, whereas store-auditing procedures may miss important purchase sources, such as large chain organizations and mail-order and house-to-house purchases.<sup>3</sup>

**DISADVANTAGES OF PANEL RESEARCH.**—The advantages of panel research, discussed above, are realized only if the panel is properly constructed and administered for the specific purposes for which it is designed. All the advantages do not apply to every type of panel. For example, a consumer purchase panel is of no value for deep-probing analysis, as the ability of the participants to contribute is exhausted by the amount of effort involved in accurately reporting family purchases.

There are also specific weaknesses of panel research, some of the most important of which are the following:

<sup>3</sup> For detailed statements of the advantages of the panel technique, particularly its ability to uncover the continuous pattern of individual buying habits, see Raymond H. Ganly and Richard D. Crisp, "Consumer Purchaser Panels Serve Advertisers, Agencies and Media," *Printers' Ink*, August 8, 15, 22 and September 12, 19, and 26, 1947. See also Vergil D. Reed, "Good News—and Bad—About Sales: How Panel Studies Reveal It," *Sales Management*, March 15, 1948, and Hans Zeisel, *Say It with Figures*, New York, Harper & Bros., 1947.

1. All panels have a drop-out problem. In a panel constructed for a special purpose and to be used only for a limited time period, this is overcome by deliberately overloading the panel when it is established. Even in this case, there is always the danger that the individuals or families who drop out during the course of the study will represent particular types, so heavy overloading and careful reconstruction of the sample are necessary. In panels which operate over a very long period of time, the turnover and the replacement of participants are a real problem. A special difficulty arises with the participants who nominally continue, but whose cooperation has become so stereotyped and inaccurate that they are not effective members of the panel. The difficulty of detecting such cases and determining their extent is obvious.

It is common to assume that identical individuals comprise the panel, as the greatest values in panel research come from measuring change in individuals. Lazarsfeld, of Columbia University, has conducted exhaustive studies which show the advantages inherent in interviewing the same person more than once. Unfortunately, turnover in panels, if not carefully controlled, too frequently keeps the panel from obtaining these advantages.

2. There is grave danger of attempting to obtain too much information from panel members. Establishing and conducting a panel operation is expensive. There is always the temptation to use names of cooperators for special mail questionnaires and to extend the scope of subjects included, with the result that the validity of the information obtained in the total operation is seriously impaired. Syndicated panels, which distribute their information to a number of clients, must exercise special caution in this regard.

3. The incentive may produce distorted results. In practically all panels it is necessary to offer either a cash payment or premiums as rewards for cooperation. There is real danger that the sample will be distorted by overselecting those individuals who are particularly susceptible to premium offers. As any advertiser with premium experience knows, there are particular classes of individuals who are responsive to premium offers. It is much less costly to retain an individual or family in a panel than to find a new replacement, so there is a special temptation to offer extra bonus premiums, which tend to produce further selectivity.

4. Panels are susceptible to a distortion in sampling. Persons who are willing to participate in any long-range research activity may be an unrepresentative sample.



5. Participants may report data inaccurately. This is a special problem of the panel technique when individuals or families are required to keep records of daily or frequent occurrences. Purchase panels require participants to keep a diary in which purchases and other data are recorded. It is obvious that many persons fill out their diaries some time after purchases have actually been made.

A particular problem is that of the reporting period. Most purchase panels operate on the basis of monthly reports. A controlled-experiment study which contrasted monthly reporting periods with one-week periods showed that those participants who were on a one-week basis reported 18.9 per cent more purchases than did those on a monthly basis. The monthly reporters indicated an average of 32.2 purchases per family per month, while the weekly reporters showed 38.3 purchases.<sup>4</sup>

6. Panel operations are expensive. This is not a disadvantage in the case of syndicated services, where the individual company subscribing to the service pays only a part of the total cost.

In spite of the limitations outlined above, there is no doubt that the panel technique is one of the important forms of consumer survey work. Special panels designed to solve difficult but limited problems are especially valuable. Various devices to lessen the dangers inherent in the panel method are being developed, and this procedure has now thoroughly established its place in marketing and distribution research.

**Limitations of the Survey Method.**—It is of the utmost importance that the marketing researcher clearly understand the limitations of the survey method, since it is the one which is most commonly employed. Chiefly, he must constantly bear in mind that a human being is always involved as a reporter or interpreter when the survey method is used. A thorough understanding of psychology is necessary to keep bias and errors to a minimum, and every possible expedient must be used to eliminate personal elements in gathering data. The use of the survey method must be restricted to requesting only those data which the individual respondent is in a position to furnish correctly.

In the discussion in later chapters many techniques and practices which overcome the scientific limitations of the survey method are explained. In a more general sense, however, there are four specific practices which may be adopted to control the use of the survey

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<sup>4</sup> See Harriet F. Lewis, "A Comparison of Consumer Responses to Weekly and Monthly Purchase Panels," *Journal of Marketing*, April, 1948, pp. 449-454.

method in such a way as to make it as scientific as possible. These are:

1. Careful phrasing of questions.
2. Careful control of data gathering.
3. Cautious interpretation.
4. Restricting the method to obtaining relative facts.

Careful phrasing of the questions employed in obtaining data by the survey method can go far toward overcoming the fundamental weaknesses of the procedure. By changing the question "Do you carry a camera with you when you travel?" to "Did you carry a camera with you on your last vacation trip?" the data obtained are made much more accurate and the whole survey becomes more scientific. A simple question like "How much do you pay for stockings?" may be asked in many different ways. H. G. Weaver has demonstrated the sharp differences obtained by asking, "Why do you prefer a Plymouth?" instead of "Why didn't you buy a Ford?" The form of the questions asked in the quarterly survey made by *Fortune* magazine is an excellent study in unusual phrasing of questions. An experienced researcher can greatly improve the scientific accuracy of an investigation involving such a problem by phrasing the question according to recognized standards.<sup>5</sup>

By carefully controlling the manner in which data are gathered one can also overcome many of the weaknesses of the survey method. The use of specially trained investigators who carefully observe and report on the subtle reactions of persons interviewed can make an investigation much more accurate than one in which investigators obtain answers to questions in a more or less mechanical manner.

Cautious interpretation of the facts obtained by the survey method is also important. A clear recognition of the limitations of the data and an understanding of exactly what they represent enable one to avoid many pitfalls. If one asks the question "What price would you be willing to pay for automatic gas heat?" he has nothing more nor less than the answers, consciously given, of the particular persons interviewed to this question. These answers may or may not be a clue to the price which should be established by a company selling automatic gas heat. If research workers who use the survey method are careful to bear constantly in mind the exact nature of the data which they have obtained, and then interpret them cautiously, one of the chief weaknesses of the survey method, as now practiced, may be overcome.

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<sup>5</sup> See Chapter 20, pages 432-450.

The restriction of the survey method to obtaining relative facts, as opposed to absolute facts, is one of the most important general principles to bear in mind. A single fact, even if stated in the form of a ratio, can be used only in an absolute manner. If that fact can be interpreted in its relationship to a similar fact, it is thereby placed on a relative basis.

An illustration is afforded by a dentifrice survey. This study showed that 83.3 per cent of the farm families covered used tooth paste. Taken by itself, in the absolute sense, the results of the survey are practically worthless, because the question asked encountered such an obvious bias. However, if this finding is placed on a relative basis it may be of considerable value. A comparison of the percentage of farm families using tooth paste against the percentage of urban families using tooth paste may be highly significant, even though the individual figure for each group is incorrect. Absolute data obtained by the survey method may be placed on a relative basis by comparing them with data for different groups of persons covered within an individual study, for different geographic areas, for different occupational or income groups, or for different periods of time.

The difference in scientific accuracy which occurs when data are considered on a relative, rather than an absolute, basis, is clearly illustrated by the tooth paste survey mentioned above. The table below, which shows the results obtained at different periods of time, indicates at a glance that the 83.3 per cent usership found in the fourth study has more value when compared with the result of the three previous studies.

PERCENTAGE OF FARM FAMILIES USING TOOTH PASTE

Study	Percentage
4 .....	83.3
3 .....	84.5
2 .....	88.7
1 ..	86.3

While the survey method is theoretically the least scientific procedure employed in marketing research, it must be remembered that in practice it not only is the most prevalent method but, if properly controlled, can be made thoroughly scientific. People in the main are honest; if questions are properly phrased and limited they can and will respond accurately. Without the vast knowledge gleaned from surveys, marketing research would lack most of its present-day

information. Checks on the validity of the survey method continually support the accuracy of its findings when carefully controlled. For example, an ingenious observational test of reading habits shows that, under proper conditions, surveys employing the recall technique can produce essentially valid results.<sup>6</sup> The survey method should be used only when it is appropriate and the specific procedures used should be controlled carefully.

### The Observational Method

The observational method relies upon direct observation of physical phenomena in the gathering of data. The observational method of marketing research is similar to the newer psychological approach which studies psychological problems from the physical and mechanical points of view, observing only overt behavior and drawing conclusions from the actions or responses which are observed. The older psychology relied largely upon introspection and the ability of individuals to describe their feelings, emotions, motives, method of thinking, and similar phenomena. Many psychologists have abandoned this procedure in favor of one which observes only the behavior of individuals and makes no effort to go directly into motives or nonphysical causes of behavior.

An example of the use of the observational method in marketing research is found in a study to determine the brands of food products used. If, instead of asking people what brands they use, the researcher makes a physical pantry inventory of brands actually in the home at the time the study is made or obtains sales data in retail stores, he is employing the observational method. Another example may be cited from studies which determine the extent of substitution. If a study is conducted on the basis of asking dealers the extent to which they can substitute another brand of a commodity for the one which the consumer requests, the survey method is being employed. If an observer is stationed in a store to record the percentage of women who ask for certain brands of the product, and the percentage who accept substitutes, the observational method is being used.

In a study of sales efforts exerted by retail clerks, it was decided early in the research that it would not succeed in gathering reliable facts if it were confined merely to questioning dealers. If one were to ask the dealer or clerk whether he suggests the purchase of ties

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<sup>6</sup> Herbert C. Ludeke and Ruth A. Inglis, "A Technique for Validating Interviewing Methods in Reader Research, *Sociometry*, Vol. 5, No. 2, 1942, pp. 109-122.

to shirt customers, the answer would invariably be "yes," because every dealer has been told to do so by various shirt and tie manufacturers. Therefore the observational method was the research procedure used to determine the precise extent to which such suggestions were actually made.<sup>7</sup>

Another example is a study of the operations of filling stations. Investigators posed as normal customers, and then recorded what actually happened when they went to selected gasoline stations. The use of the observational procedure is illustrated by the following instructions given to investigators:

No contact is to be made unless your car meets fully with ALL these requirements:

- a. Never have more than 5 gallons of gasoline in your tank—less will be better.
- b. Be sure your oil supply is obviously low—down one or two quarts.
- c. Before making any contact deflate the tire nearest the gasoline filler cap. Let enough air out of this tire to make it obvious that it is under-inflated, but not so low as to ruin your tire. (This can be done a block away from the station.)
- d. Be sure your windshield is dirty before making each report. Use your own ingenuity as to how this should be accomplished. In wet weather there is no problem. Perhaps a cheap atomizer or spray gun filled with dirty water will accomplish your purpose. We question the advisability of wiping it with an oily cloth for this would be too obvious. In some sections dust may be present or available.<sup>8</sup>

In the observational method trained investigators may be employed to record their field observations. This is the technique most commonly used. Another technique is to employ wire recorders or other recording devices while an investigator leads a respondent through a conversation or period of questioning. If the recorder is used only to obtain accurate transcriptions of answers to questions, the survey method is being employed with a special device to improve accuracy. If the individual is stimulated to behave under controlled conditions and the record is used as a basis for interpreting his reactions, then the observational method is being employed.

Still another device is the use of cameras to take pictures of consumers' dwellings, retail stores, interior displays, etc. An exten-

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<sup>7</sup> Chester E. Haring, in A. B. Blankenship (ed.), *How to Conduct Consumer and Opinion Research*, New York, Harper & Bros., 1946, p. 234.

<sup>8</sup> *Ibid.*, p. 235.

sion of the camera technique is called "camera action," in which observations are made of persons as they are using products during a questionnaire interview.

The advantages of the observational method over the survey method are apparent. It is much more objective and accurate. It eliminates to a large degree the human element which is present in the use of the survey method. There is still a human element present in the form of the observer. But he is a specially trained individual, who stands merely as a reporter of physical behavior, and his work may be controlled and checked. The observational method records market behavior directly. Expressed market action on the part of consumers and dealers is the ultimate aim of all marketing activities. Since the observational method directly records and employs actual market behavior, it is in a sense working on the same plane on which the results of the research must be employed.

The observational method is usually much more costly than the survey method. If an observer is stationed in a retail store, for example, the speed at which he can work is limited by the flow of traffic and the frequency with which the phenomenon he seeks to observe occurs. If the observational method is used in consumer analysis, it usually involves gaining an entrance into the kitchen or another part of the home, so that the work is considerably retarded. The observational method is restricted in its use because there are many phases of marketing research in which it has not yet been found possible to employ the method, instead of the survey procedure.

Finally, this method gets at buying motives and other psychological factors only in so far as they are expressed in the overt behavior of individuals. As a result, it is often true that the observational technique becomes too mechanical. The method makes the logical assumption that the expressed or observed physical action provides a sufficient basis for interpreting the probable motives behind behavior. This assumption may or may not be true, and in many cases it is a limitation on the use of the procedure. The observational method shows only what people have done or are doing. One must recognize this limitation and be cautious in the interpretation of the results of the observational approach. It is especially important to keep in mind that inferences as to the motives which lie behind the actions observed should not be made unless they can be justified clearly on the basis of the evidence which has been presented.

### The Experimental Method

The essential characteristics of the experimental method as a scientific procedure have already been discussed. Some general considerations regarding its application in the field of marketing and distribution research merit further treatment.

The experimental method is still largely in the pioneering stages of its development in marketing research. Frequently less accurate methods must be used in its place. There are some fields, however, in which its use has become extensive.

One field in which the experimental method is used rather commonly is in testing advertising campaigns and advertising media. In an effort to obtain a more direct measurement of the sales productivity of an advertising campaign than is afforded by the consumer jury, by coupon analysis, or by recognition and recall, sales area tests of advertising campaigns have been employed. While the techniques for these tests are far from perfect, sufficiently accurate results have been found in a number of cases to indicate clearly that the experimental procedure is justified. As more sales area tests are made, the many variables encountered will be understood better, and as a result the proper means of controlling or accounting for these variables will be developed.

A second common application of the experimental method is in testing sales promotion devices. Some rather extensive work has been done in the use of store experiments. For example, in 1946 a test was made in nine Cleveland drug stores:

The method used was the store audit of sales procedure, consisting essentially of a count of sales of the merchandise in question, with and without displays, to determine the relative movement of goods. The hypothesis was that display of the merchandise would produce a sufficient increase in sales to cover the cost of the display, and leave a surplus. The chief variables were thought to be weather, season, special sales effort or display, and unanticipated store promotion in the form of advertising.

Two test stores and one control store were used from each of three major Cleveland chains. Merchandise was inventoried once each week for five weeks, and the weekly rate of flow of merchandise was calculated. In order to cancel out external influencing conditions, displays were kept in each test store for two weeks and then removed for two weeks, according to a prescribed rotation schedule.

At the end of the fifth week, sales for each store were totaled. Total sales increase for six stores with use of displays was 53 per cent, but increases of individual stores varied greatly. Because it was felt that extraneous variables had affected the result, adjustments had to be made on the basis

of interviewer's "subjective reports of the conditions he found in the store." After such adjustments were made, sales increase due to display amounted to 31 per cent.<sup>9</sup>

A third major use of the experimental method in marketing research is in determining prices. Tests are set up in which a commodity is offered at different price levels and careful records of the volume sold are made. In this way the marketing researcher takes the theoretical principle of elasticity of demand and translates it into marketing reality.<sup>10</sup>

A fourth use is in connection with tests of products and packages. The Du Pont Cellophane Company conducted extensive tests to determine the effect of the use of cellophane as a packaging material. As a result, the marketing research department was able to provide salesmen with definite figures on the increased sales which resulted from this type of packaging. Excerpts from a report of one of the tests are quoted below:<sup>11</sup>

#### RETAIL TEST ON BOTTLED GOODS

The sales test was conducted for four consecutive weeks. During the first two weeks, half the stores carried these products in Cellophane while the other half carried them unwrapped. During the second two weeks, conditions were reversed as indicated.

Store	In Cellophane	Unwrapped
Nos. 1, 2 & 3.....	First two weeks	Second two weeks
Nos. 4, 5 & 6.....	Second two weeks	First two weeks

This procedure was set up to equalize weather conditions, national advertising, or any other influences which could not be controlled.

Sales results by stores and items

Catsup (Large)	In Cellophane	Unwrapped
Store #1.....	6	3
" #2.....	24	19
" #3.....	21	16
" #4.....	13	8
" #5.....	30	21
" #6.....	15	9
Total sales.....	109	76

In Cellophane—43.4 per cent greater sales.

Total sales all products in Cellophane 372, unwrapped 248. Increase 50 per cent.

<sup>9</sup> Charles Margolis, "Store Audits Show Efficiency of Displays," *Printers' Ink*, December 27, 1946.

<sup>10</sup> See page 250.

<sup>11</sup> *Michigan Business Cases*, Market Analysis Series, No. 7, 1935, pp. 5-6.



It was previously shown that a basic logical assumption of the experimental method is that the conditions of the test be essentially the same as those found in the situation in which the results of the tests are to be applied. In the case of the physical sciences, this requirement may be met with comparative ease because the scientist is dealing with relatively stable physical phenomena. In marketing research, however, one is dealing with the least stable of all elements—the human factor. With whims, fancies, and emotions playing an important part in determining market behavior, the whole subject matter of the analysis is exceedingly unstable. Since markets are subject to so many conditions which affect their response to any given commodity, have such wide differences among geographic areas, and are in a state of constant flux, it is exceedingly difficult to apply the experimental method accurately. Yet, since this method is theoretically the most scientific of all procedures which may be employed, the researcher constantly seeks to develop the techniques which will make it possible to use it.

As was also shown in the earlier discussion, another assumption of the experimental method is the proper control of all variables except the one which is being measured and is, therefore, varied as part of the experiment. In an experiment on temperature, for example, if other variables which may affect the result are not properly controlled, the experiment will not be a success. There are three ways in which variables other than the one being measured may be controlled properly for experimental purposes, as follows:

1. Holding the other variables constant.
2. Rotation of the experiment.
3. Correction for variations.

The best examples of holding other variables constant will be found in the laboratories of the physical sciences. It is comparatively simple for the chemist, for example, to maintain constant conditions of temperature, atmospheric pressure, purity of materials, quantities employed, and other variables which may affect the result. In marketing experiments, on the other hand, this procedure cannot be employed except in a very limited manner. The habits and activities of the market are not under the control of the researcher. He must take marketing conditions as he finds them, for he has no technique for controlling the behavior of the individuals who make up the market. Some of the difficulties encountered in using the experimental method, including the impossibility of controlling all variables except the one which is being measured, are

illustrated by advertising tests based upon the analysis of coupon returns. After a different series of advertisements has been run, the researcher is confronted with the question as to just exactly what has been tested. Among the different elements which have usually varied to a greater or less degree during the period of the experiment are the following items:

1. The media used.
2. The advertising theme.
3. The physical form of presentation, such as size of advertisement and layout arrangement.
4. The illustration.
5. Competitive offers.
6. Changes in retail store operations, particularly displays of merchandise.
7. Changes in market conditions which affect coupon returns, such as seasonal variations in coupon response, effects of weather, local business conditions, etc.

From this brief list it will be seen that there are many variables likely to enter into a marketing research test which cannot be directly controlled. In making an advertising test, such as the one mentioned, the researcher must first be careful to determine what one element is being tested, and then be sure that the others are held as constant as possible. If one seeks to test the sales productivity of different advertising themes, for example, it is possible to use exactly the same physical presentation and the same advertising medium in the test. Unfortunately, many researchers attempt to test several elements at the same time, with the result that they follow the form of the experimental method but are not proceeding scientifically.

The method of the rotation of tests to allow uncontrolled variables to offset each other is frequently employed in marketing research work. It is theoretically possible to work out a plan whereby tests are set up concurrently in different markets, for example, and then rotated among the markets in such fashion that the many uncontrolled variables will counterbalance one another. A good example of this method is the sales area test of advertising. A schedule for the insertion of the advertisements in such an experiment is shown below. The reader will note that care has been exercised to provide for an automatic rotation of both the advertisements and the markets so that differences in weather conditions, competitive efforts, and other uncontrolled variables encountered in the different markets will have an opportunity to offset one another, and the sales

made during the period in which each advertisement is run may be attributed directly to the advertising.

TABLE 39

## SCHEDULE FOR COPY-TEST INSERTIONS

(For three different campaign themes. The numbers indicate the different themes.)

City	1st Period	2nd Period	3rd Period
Albany . . . . .	#1	#2	#3
Utica . . . . .	2	3	1
Erie . . . . .	3	1	2
Elmira . . . . .	1	2	3
Wichita . . . . .	2	3	1
Canton . . . . .	3	1	2
Peoria . . . . .	1	2	3
Waterloo . . . . .	2	3	1
Hartford . . . . .	3	1	2

The third method of controlling variables is to correct errors in the result caused by the influence of variables which have not been held constant or allowed to offset each other by rotation. In physics, it is not necessary that all factors be held absolutely constant. Certain laws relating to factors like temperature provide a basis on which to make corrections for temperature changes which have affected the results of many experiments.

Unfortunately, this technique is almost unknown in marketing research. As experience is obtained, however, it will be possible to develop general principles or facts regarding such matters as seasonal sales variation, the effect of temperature on sales, and the effect of display on sales which may be stated with sufficient accuracy to make it possible to correct the results of marketing experiments, just as the scientist makes corrections in the physical laboratory.

The difficulty of conducting experiments is clearly indicated by the foregoing discussion of the methods of controlling the variables encountered in such study.<sup>12</sup> Differences in weather, newspaper circulation, activities of competitors in local markets, dealer activity, composition of the population of different cities, and variations in buying power are examples of the many variables found. Marketing men, for instance, have listed over 150 variables which contribute to the difficulty of making dependable sales tests of advertising.<sup>13</sup>

<sup>12</sup> A more detailed discussion of how to control marketing experiments will be found on pp. 513-516.

<sup>13</sup> Frank R. Coutant, *Suggestions for Conducting a Trial Sales Test of Advertising Copy*, report submitted to American Marketing Society, N. Y. Sec., October, 1932, p. 4.

The presence of so many elements makes the use of the experimental method most difficult. At the same time, it also places a premium on knowledge of scientific procedure and the rare ability to analyze and control the variables. The presence of these variables, furthermore, offers a fascinating field for scientific exploration.

### The Accuracy of Marketing Research Methods

The general merits and limitations of the three basic methods employed in marketing and distribution research (survey, observational, and experimental) have been discussed. It is so important, however, that the best possible method be employed, that a further discussion of the accuracy of the different techniques may prove of value to the researcher.

The contrast between the results obtained by the use of the observational and survey methods is shown in a study of the extent to which consumers specify the brands of commodities asked for, and the extent to which retail salespersons are able to switch customers from the brand requested to another brand. The investigation embraced 609 retail outlets in five cities. The salespeople were first asked questions about the extent to which buyers specified brands. The field investigators then personally checked 4,622 customer transactions, observing exactly what happened.

The following table shows the contrast between the results obtained in the two methods:<sup>14</sup>

TABLE 40  
PERCENTAGE OF CUSTOMERS NAMING A BRAND

Type of Outlet	Observational Method	Survey Method
Grocery stores.....	62.1	58.3
Department stores.....	61.2	64.3
Automotive.....	85.0	44.4
Drug stores.....	77.8	61.1
Home furnishings.....	62.8	40.8
Men's furnishings.....	35.1	34.3
Appliances, radios.....	80.0	39.8
Paint.....	73.0	53.6
Average.....	67.8	57.5

<sup>14</sup> "Over-the-Counter Influence on Sales by Brands," *Liberty*, Division of Marketing and Research, New York, 1933, p. 16.

It will be noted that on this particular question the opinions of all salespeople interviewed by the survey method underestimated the percentage of brand specification by over 10 per cent. In certain lines, notably in automotive, home furnishings, and radios, the degree of overestimation was much greater than this.

Another check on the comparative accuracy of the survey and observational methods was reported in the same study, and sheds light on the degree of inaccuracy injected in the survey method when a question that affects the pride of the person being interviewed is used. The results of the two methods, when used to determine the extent to which salesmen can switch customers from the brand requested to another brand, is shown in the following table:<sup>15</sup>

TABLE 41

PER CENT OF CUSTOMERS SPECIFYING A BRAND WHO  
WERE SWITCHED TO ANOTHER BRAND<sup>16</sup>

Type of Outlet	Observation of Customers	Opinion of Salespeople
Grocery stores.....	5.5	40.5
Department stores.....	21.6	32.4
Automotive.....	.5	49.0
Drug stores.....	6.7	41.7
Home furnishings.....	25.0	37.5
Men's furnishings.....	25.8	59.2
Appliances, radios.....	0.0	39.2
Paint.....	10.8	36.8
Average.....	6.9	41.6

The sharp difference between the results which are obtained by the two methods shows the futility of employing the survey method for certain purposes. Here the observational method is clearly practicable, although somewhat more costly than the survey method. The results, however, obviously justify the additional cost.

The writer conducted an exhaustive test of the relative accuracy of the survey and observational methods when applied to a study of brand preferences for a health product. The product involved provides a fertile field for contrast, because when a person is asked about his habits relating to its use the researcher immediately encounters a very personal situation in which pride and prejudice are important

<sup>15</sup> *Ibid.*, p. 18.

<sup>16</sup> *Ibid.*, p. 18.

elements. A large number of persons were asked, "What brand of — do you use?" (survey method). After the answer was recorded, the person interviewed was offered a new package of the product in exchange for the package in the home, and, when necessary, was made other offers which would be sufficiently attractive to induce him to part with the product (observational method).

The degree of error in the survey method is shown in the following table:

TABLE 42

RATIO OF NUMBER OF TIMES A GIVEN BRAND WAS ACTUALLY PRODUCED TO NUMBER OF TIMES THE BRAND WAS NAMED

(Percentage of persons stating that they used a given brand who showed it.)

Brand	Ratio	Brand	Ratio
A.....	43.2%	H.....	45.5
B.....	56.4	I.....	100.0
C.....	61.1	J.....	100.0
D.....	75.7	K.....	150.0
E.....	80.0	L.....	100.0
F.....	86.0	M.....	150.0
G.....	93.0		

Certain conclusions are very definitely indicated from this investigation. In the first place, there is a very clear tendency for well-established, national brands to be named by persons who are not using any brand of the product. Second, there is a clear tendency for nonusers to state they use a brand of the product. By the survey method, less than 2 per cent of the persons interviewed stated that they did not use the product. On the observational method it was found that over 20 per cent of the persons interviewed did not use the product. Third, the persons using brands possessing special qualities or used for special purposes name the brand most accurately on the survey method. Fourth, the brands which sell in very small volume are for the most part reported accurately in the survey method. (In the foregoing table, brands I and M were not reported as frequently as they should have been.)

Another indication of the relative accuracy of the survey and observational methods may be found in the field of measuring radio audiences. The survey method has been widely used to determine the size of audiences for radio programs and total station circulation.

In 1936 a mechanical device to be placed on radio sets, which automatically records the station to which the set is tuned, was introduced.

This, of course, represented the observational method. During the period in which this device was being tested, the results shown by the automatic recording device were compared with the information which would be obtained by the survey method.

It was found, for example, that the average person was able to report correctly, with unaided recall, the names of only 31 per cent of the programs to which he had listened on the preceding day. When a check sheet which listed the programs broadcast on the preceding day by fifteen-minute intervals was employed, it was found the people could remember 59 per cent of their actual listening experience, as shown by the mechanical recorder. In the latter case unaided recall was supplanted by recognition through the use of the check sheet, which resulted in a significant increase in the accuracy of the survey method. It is most important, however, to note that under the best circumstances the limits of memory made the survey method highly inaccurate.<sup>17</sup>

In general, the survey method is the least scientific of the techniques used in marketing research. The observational method is more objective, and should be used in place of the survey method wherever practicable. The experimental method is theoretically the soundest of all scientific methods. But in view of the many practical limitations on its use and the pitfalls which arise from the difficulty of controlling all factors other than the phenomenon being studied, it is often impossible to employ this method satisfactorily. The marketing researcher is faced with the practical fact that the use of the observational and experimental methods may often remain an ideal toward which he should constantly strive, and that he must meanwhile work as effectively as possible with the survey method. It must also be kept in mind that there are many subjects studied in marketing research for which the survey method is the only proper technique, so this procedure will continue to be a basic one.

### The Alternative Use of Marketing Research Methods

Earlier in the chapter the statement was made that in many marketing studies one has the opportunity of choosing among the three basic techniques. Frequently practical consideration points directly to the necessity of using one of the three techniques without seriously considering alternative possibilities at length. On the other hand, one of the chief weaknesses of marketing research as now practiced

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<sup>17</sup> John J. Karol, "Measuring Radio Audiences," *Printers' Ink*, November 19, 1936, pp. 44-56.

is the tendency to use the first basic method which comes to mind, without considering other methods which are more scientific.

In order to illustrate more clearly how one may gain by making an effort to determine the different methods which may be employed, an example from the breakfast cereal field may be cited. In this case the central problem was to determine whether the flavor of the product should be changed to make it more acceptable to the public. While many different approaches might be used in the case of this problem, the three most seriously considered were:

1. Asking consumers who had used this brand of cereal and discontinued its use why they quit.
2. Placing an ample supply of this cereal and three others in front of groups of people and making an accurate record of those which were voluntarily eaten.
3. Changing the formula for the product and conducting a test sales campaign.

The reader will notice that the first approach represents the survey method, the second the observational, and the third the experimental. The student will find it an interesting exercise to work out further variations of the different approaches. The important point to notice is that the three approaches are fundamentally different in terms of the scientific principles involved, and that there is a difference in the scientific validity of the conclusions which would be drawn from each of the different methods.

### **The Combination of Methods**

It is often possible to combine the various procedures in a given marketing research. Usually one is given the opportunity of choosing between two or more of the methods. Some phases of the problem may be well adapted to the observational or experimental procedures, while other phases may of necessity call for the use of the survey method. In planning a research one should, therefore, carefully check each aspect to make sure that the best possible method is employed.

There are also occasions on which it is possible to employ two different methods in handling one phase of an analysis, so that the results of the two techniques may be used as a cross-check on reliability. In its product research, for example, the General Foods Corporation combines the survey with the experimental method. When a new product is introduced or when changes are made in



packages, the first step is to send the innovation to a group of interested consumers to determine by the survey method whether they like the new product or package. Following this survey test, an experimental analysis is made in which actual sales tests are conducted in different markets.

One should also bear in mind the possibility of introducing some of the elements of the observational or experimental method into any operation, even though the method actually employed is not strictly observational or experimental. A common example is found in test advertising campaigns based upon the number of coupon replies received. This is not the experimental method in its true sense, because the actual sales produced by the different campaigns are not known. By running the different test campaigns, however, one approaches the principle of the experimental method so that the method is likely to be more effective than, say, a consumer survey.

An example of an analysis which introduces some of the elements of the observational method, but which is still basically a survey, is found in a study of color preferences. If consumers are shown three samples of a product which are identical except for color and asked which color they prefer, the survey method is used. If on the other hand, the investigator merely shows the three samples and makes an observation of the order in which the consumers pick up the different products, or the sample held in the hand longest, something of the objectivity of the observational method has been introduced to make the analysis more scientific than a typical survey procedure.

A clear understanding of the nature and implications of the three basic marketing research methods is one of the chief earmarks of a truly scientific research worker. Such an understanding far transcends clever manipulation of the minor techniques discussed from time to time later in this book. The researcher must have a keen appreciation of the strengths and weaknesses of each of the basic methods and a subtle understanding of their many vagaries. He must be constantly alert to the possibility of conducting his work on a more scientific basis by shifting to a better method. He must recognize the possibility of combining the methods in order to verify his findings. Where the more scientific methods are not open to him because of practical considerations, he must constantly seek to inject some of the elements of the better methods into the one he must use.

## CHAPTER 16

### MARKETING RESEARCH PROCEDURE

#### Steps in Marketing Research Procedure

Marketing research procedure involves eight basic steps which should be followed in a scientific analysis of a product or service. These steps are:

1. *The Situation Analysis (Internal Research)*. This first step in a scientific marketing research is a complete survey of all available data regarding the company, its products, the industry, the market, the dealer situation, and advertising. The information is gleaned from the internal records of the business and from readily available published material in libraries and trade papers. In this step the researcher seeks to obtain all the information he can about the problems of the company and the environment in which the study is to be made.

2. *The Informal Investigation*. In this step of the research the person responsible for the study, and his assistants, talk informally with consumers, dealers, and key men in the industry to get an impartial point of view and the "feel" of the problem. The study director has no notion of the form which the final analysis will take, but attempts by informal interviews to put his finger on the central problem. If assistants are employed in this step, it is essential that they be well-trained investigators who are especially capable of drawing out people with whom the interviews are made and recognizing significant facts when they appear.

3. *Planning the Formal Research Project*. The specific procedure for carrying on the remainder of the investigation is determined at this point. Various hypotheses are considered until the specific purposes for the research have been selected. The types and sources of data which are to be obtained are determined. Decisions as to the sample of people who are to be interviewed are made if field work is necessary. The various forms and instruction sheets are drawn up. Proposed methods of investigation are tested. Usually the results of this planning work are summarized in a formal written plan which becomes a basic guide for the conduct of the formal research.

4. *Collecting Marketing Data.* In this step the field work or organized collection of secondary data from various sources is carried on. After the practicability of the plan has been tested further, the final field survey is made, observations are taken, or the experiments are conducted.

5. *Tabulation and Analysis.* The field reports first are edited, the sample is tested, and the data obtained are tabulated. The data are manipulated statistically so that they take the form of a series of statistical conclusions.

6. *Interpretation of Results.* From the statistical summaries and conclusions which have been developed in the preceding step, the researcher now makes interpretations in terms of business policy. These interpretations may confirm the wisdom of policies already established, or they may point to fundamental changes in the conduct of the business. The final product of this stage is a series of specific recommendations.

7. *Presentation of the Results.* This is a separate step in which the results of the research, which is now in a sense completed, are written in the most effective form for presentation to the executives of the firm and to others. The emphasis in this step is on the preparation of the physical reports which should be presented in such a way that the results will be clearly understood and the recommendations accepted.

8. *Follow-Up.* This final step is most important. While many persons consider the work of the research completed upon the presentation of a good report, the ultimate test of its value is the extent to which recommendations are actually put into practice and the results are achieved. In order that full benefit may be derived from the research, it is usually necessary that the research director participate in the application of the results of the survey in the actual business operation, at least while their practical value is being tested and during the earlier stages of the inauguration of the new policies and procedures which have come about as the result of the research.

The basic procedure which has been outlined above and which will be discussed in greater detail later has been developed from the experience of many people engaged in marketing research work. As in other fields, different analysts will follow different procedures and make various modifications. The method presented in this chapter is not the only procedure which is logical or productive. Some steps might well be combined with others, and other steps might be added. Furthermore, in any given situation or problem, the pro-

cedure will often be altered according to the requirements of the specific case.

On the other hand, a procedure which follows a series of steps similar to those outlined must be followed in its fundamentals in any scientific marketing research. Furthermore, the basic procedure explained here will fit most cases. Where a research is being made for a new product, or where the individual conducting the research is working with a specific product for the first time, the procedure will be followed in nearly all of its details. Once a comprehensive situation analysis has been made, it is, of course, no longer necessary to repeat this step or some of the other phases of the procedure in later analyses.

In any specific research several of the steps mentioned above will be in progress at any given time. While the situation analysis should be well under way before the informal investigation is begun, it is not necessary that the first step be completed before the second is undertaken. Nor is it necessary that the informal investigation be completed before planning the analysis. Some thought should be given to the plan as soon as the situation analysis is begun. Preliminary field work should be started during the planning stage, and while none of the data obtained may be employed in the final analysis, often some of the information obtained in test questionnaires, observations, or experiments can be used. If the tabulation and analysis of field data are not begun as soon as the first reports from the field are received, waste and delay result. The interpretation of results is the sixth step, but the researcher looks forward to the interpretations which will be made during the third step of planning the investigation. Similarly, the work in the last two steps is undertaken before the preceding ones are completed.

Under no circumstances should one attempt to complete any step of a research before the preceding one is undertaken. In actual practice one must constantly "back up" at several times during the research, returning to preceding stages. Sometimes errors have been made which appear during the later steps; often it is found that important elements which were overlooked in the earlier stages must be brought into the research; and sometimes it is even necessary to begin a large part of the operation over again as the result of some condition which is not revealed until the study seems to be almost completed.

While several steps in the research are in progress at one time, it does not follow that it is unimportant that the major steps be undertaken in the order shown in the outline. Many marketing re-

searches fail because the persons in charge have not begun in the right manner, and do not follow from one step to the next in logical order. The most common error is to undertake field work before an adequate plan for the investigation has been carefully prepared. Another frequent error is to attempt to develop a sound plan for an investigation without carrying on the informal investigation as discussed in this book. Without the informal investigation the person in charge of the marketing research does not have the proper feel of the market, and is almost certain to plan a study which is superficial, impracticable, and unproductive. It is just as great an error to attempt to plan the investigation before conducting the situation analysis. The researcher who does not have an adequate intimate background of the company and the market, which is provided by the situation analysis, is a tragic figure. He is likely to make blundering mistakes which grow out of his ignorance of the facts regarding the company, the product, and other factors which should be considered in planning the research. Interpretations which are carried too far before the tabulations are completed are likely to result in a crystallized point of view which prejudices the researcher against accepting the real facts which have been found in the field work.

Each of the major steps in marketing research will be discussed in further detail in the remainder of this chapter. An example of a study of the market for a white floating soap will be frequently drawn on to illustrate how the marketing researcher goes about his work.

**The Situation Analysis (Internal Research).—**The purpose of the situation analysis is to gather and analyze all available data on the marketing activities of the firm and its competitors. This exhaustive study of all accumulated data serves several purposes. In the first place, it provides an adequate background for the proper planning and execution of the analysis. Second, it lays a foundation for the development of possible hypotheses for the study. Third, it shows the researcher how to avoid many potential pitfalls which he might otherwise encounter, especially in making his interpretations and recommendations. Fourth, it insures that there will be no useless repetition of work which has already been done. In this way time and money are saved, and it is possible to incorporate the results of much previous work and accumulation of data in the analysis without additional expense.

The determination of the hypothesis or group of hypotheses

which give direction to a marketing research is so important that it merits further discussion at this point. The term "hypothesis" means a tentative statement of the probable basis for the solution of a problem. When a skilled mechanic, for example, examines a motor which is not functioning properly, he does not tear the motor apart and completely rebuild it. On the contrary, he makes a diagnosis of the probable cause of the difficulty, and having decided that the trouble lies in faulty carburetion, proceeds to adjust or rebuild the carburetor. The decision that the solution to the problem lies in carburetion rather than in the ignition or other source is his first hypothesis. The later decision that a certain type of repair will solve the difficulty is a second hypothesis. It would obviously be a foolish waste of time and money to rebuild an entire motor because it does not work properly. Usually one or two factors are the cause of the trouble, and the skill of a mechanic is shown in large measure by his ability to determine wherein the trouble lies. While most garage mechanics have probably never heard of the term "hypothesis" they are using, in fact, a hypothesis every time they decide how to repair a motor, just as the chemist uses a hypothesis in determining what course a chemical experiment should pursue to solve a particular problem.

Another example of the use of a hypothesis will be found in the case of medical diagnosis. When a physician diagnoses a case, he does not attempt to apply all the known techniques of remedial or preventive medicine. On the contrary, a good physician makes a very careful diagnosis of the symptoms shown in the individual case in order that he may find the root of the trouble and determine the one or two types of treatment which are required. Many physicians do not think specifically in terms of a hypothesis, yet in casting about for the cause of the difficulty and the probable means of solving it they are in effect setting up tentative hypotheses.

The hypothesis has sometimes been referred to as a hunch or guess on the part of a scientist as to the type of procedure which will yield a sound solution to the problem at hand. The term "hunch" or "guess" is used because hypotheses are usually arrived at in a nonmechanical manner, and often appear to come to the person attempting to solve a problem as a matter of mere chance. When Pasteur, for example, was attempting to determine the means of preventing rabies, it appeared that he suddenly was inspired to inoculate exposed persons with germ cultures obtained from the saliva of dogs suffering from the disease. This event has been dramatized in literature and motion pictures.

It was no accident that Pasteur discovered this solution instead of thousands of other people who faced the same problem. Years of study and experimentation, much of it apparently fruitless, preceded the development of this hypothesis. When Pasteur finally made use of the idea, he easily concluded his investigation with tests which established a principle that was to change completely the course of medical history.

The hypothesis is just as important to the marketing researcher as it is to the technician or scientist in any other field. As will be shown later, the selection of the specific hypothesis or hypotheses is a crucial operation in the third step of planning the investigation. These hypotheses are not developed, however, solely as a result of conscious effort in this third step. They arise more or less automatically as a result of the work which is carried on in the first two steps—the situation analysis and the informal investigation.

In carrying out the situation analysis, an exhaustive search should be made of all company records and other data which may have a bearing upon the company's marketing activities. An example of the value of such information will be found in the study for a white floating soap. It would be impossible to attempt to reproduce all of the information obtained in the situation analysis for this product, or even to show all of the facts which helped give direction to the study. But a few of the findings will indicate how such data made important contributions to the background of the persons planning the analysis, pointed to certain hypotheses, showed several pitfalls to be avoided, and discovered phases of the situation which had already been analyzed and so did not need to be analyzed again.

The most important facts gained in the situation analysis for this product included the following:

1. The soap division was regarded as a sideline operation of the company.
2. The selling and advertising methods which had been employed were far inferior to those of competitors.
3. Any effort to expand sales would require a superior product and aggressive promotion.
4. The company had developed a product which gave genuine promise of market possibility.

**The Informal Investigation.**—The purpose of the informal investigation is to obtain an intimate "feel" of the market by making exploratory interviews with consumers, dealers, and key executives. As the name suggests, these interviews are made without any organ-

ized questionnaire approach and with as open a mind as possible. The purpose of each of the interviews is to cause the respondent to talk freely about the product, its market, and other related subjects.

The most important single purpose of the informal investigation is to uncover hypotheses for the formal research investigation. The researcher is here mining for important ideas which will give him a clue to the direction which the study should later take. Many possible hypotheses will have been discovered in the situation analysis. In the informal investigation many new ones will be added. In addition the market project director will begin to form a mental appraisal of the relative value of the various hypotheses which have occurred to him.

Since no set form or schedule is employed in conducting the informal investigation, it is impossible to tabulate its results and prepare a statistical report. Furthermore, such a treatment of the results of the informal investigation would not be desirable. Where various people are involved in this step of the analysis, the individuals usually prepare running reports on the individual interviews which have been made. Examples of the various forms which these reports may take are shown in the discussion of the informal investigation in Chapter 18.

In making consumer interviews in the informal investigation, questions like the following usually are asked:

1. Do you use this product?
2. If so, what brand do you use and why?
3. What do you like most about this particular brand?
4. What are your objections to this brand and other brands?
5. How long have you been using this particular brand?
6. How did you happen to start using it?
7. Why don't you use certain other brands? (The investigator names a few selected brands including the one for which the study is being made.)
8. Who uses the product in your family?
9. Why do they use the product?

In interviewing dealers, questions like the following are raised:

1. Do you handle this product?
2. How important is it in your total sales volume?
3. What brands do you stock and why?
4. What is your opinion of the various manufacturers, their sales policies, discount structures?
5. What brands do you push? Why?



The key interviews in the informal investigation are made with important executives of the company, especially the general executives, the sales manager, and the advertising manager. Additional interviews are obtained with key executives of competing firms, trade associations, large buyers, trade papers, and advertising media. Often persons occupying minor positions should also be interviewed because of their special experience or ability. These include outstanding salesmen, junior executives in sales and advertising who have analytical minds, and those people who have been associated with previous research activities of the firm. In conducting these key interviews the researcher attempts to get the respondent to talk as freely as possible about the marketing problems of the company, with as little stimulation on the part of the interviewer as possible.

In the study of the market for the white floating soap, many valuable facts were discovered in the informal investigation. In the consumer interviews it was found that a wide variety of brands of toilet and bath soap were used by consumers, that usually several different brands were used within each family, and that individual members of the family frequently used different soaps for different purposes. It was also revealed that there was a considerable tendency to purchase soap at special bargain prices, with the result that consumers were buying in fairly large quantities and that at any given time there was likely to be a considerable stock on hand in the home. It was found that several brands were purchased for specialized uses, and that consumers were inclined to be either strongly addicted to their use or strongly prejudiced against them. It was discovered that there were many consumers who objected to the odor of certain brands, and that the size and shape of the bar itself were also important considerations.

In the dealer interviews it was revealed that the most important outlet for soaps was the grocery store, but that certain types of drug stores were recapturing their position in the retail field. The importance of syndicate stores also was brought out. It was found that a vast majority of dealers were actually selling a relatively small volume of soap and that this was made up of many different brands. Dealers clearly indicated that they were not interested in adding a new brand of soap unless given a special incentive, since they believed they were carrying already too many varieties. It became apparent that the soap for which the research was being made was stocked by very few dealers, and that most of them considered it a dead item. The dealer investigation further showed that the margin of profit on most soaps was very low. A fairly large proportion of the deal-

ers interviewed stated that their largest selling soap was Ivory, which was directly competitive with the white floating soap being studied.

Interviews with key executives were not particularly productive in this particular study because they tended largely to confirm information already brought out in the interviews with dealers and in the situation analysis. It was found, however, that they recognized the need of intensive promotion of a new item in order to stimulate the activity of the soap division, and that they would be receptive to any practicable ideas.

After a sufficient number of calls had been made on consumers, dealers, and key executives and no important new ideas had been developed, it became clear that further interviews would result largely in mere repetition, and those in charge of the investigation were ready for the third step—planning the formal research project.

**Planning the Formal Research Project.**—In many respects this step is the heart of the entire research operation. Here the skill and care with which the situation analysis and the informal investigation have been conducted bear fruit. The plan which is developed at this point determines the course of the remainder of the analysis and hence may be regarded as the most vital part of the entire operation.

In the preparation of the plan, it is important that a specific procedure be followed as exactly as possible to insure that the analysis will be scientific. The essential elements in making the plans and the order in which they should be carried out, are as follows:

1. Determining the purpose of the investigation.
2. Determining the types and sources of data to be obtained.
3. Preparing the forms to be used in gathering data.
4. Planning the samples.
5. Conducting the test investigation.
6. Determining operating plans and costs.

**DETERMINING THE PURPOSE OF THE INVESTIGATION.**—In this phase of the work the researcher carefully weighs the merits of the many hypotheses which have been suggested in the situation analysis and informal investigation. It is probable that there will be many suggested hypotheses, each one of which holds some promise of providing a basis for analysis that will contribute to the success of the marketing operations of the company.

It is generally recognized, however, that one of the most important considerations in the development of research is the limitation

of the study to a small number of workable hypotheses. This means that it is necessary to reject scores of possible hypotheses and to arrive at the very few which are to be carried through the remainder of the investigation. In this stage of the work it is usually helpful to prepare a list of those hypotheses which will probably be of value and then to challenge the usefulness of each one. The hypotheses which are finally selected then become the purposes or objects of the analysis.

Sometimes the selection of the hypothesis is primarily a matter of limiting the investigation to a sufficiently small number of them. The use of a price hypothesis is an example. If it has been decided as a result of the situation analysis and informal investigation that the current price charged consumers is too high or too low for the best marketing results, it is sufficient to state the hypothesis in the following form:

To determine the effect of different price levels on quantities sold and profits realized.

This is true because the technique for completing an investigation which hinges upon a price hypothesis is rather clearly established.

On the other hand, the subject covered in the hypothesis may lead to many forms of statements and methods of treatment. In such a case it is important in this step to develop the exact statement of the hypothesis which will be of greatest value when solved. An example of a hypothesis of this type is one which relates to the types of advertising media which the company should use. One might state the hypothesis in the following form:

What types of advertising media should the X Company use?

This, however, is entirely too vague and general to be a workable hypothesis. The hypothesis should be stated in some form like:

The X Company should discontinue its radio programs.

There are many other forms of specific hypotheses which might be used in connection with an analysis relating to the types of advertising media which a given firm should use. The one which has been cited as an example illustrates the point that the exact form in which the hypothesis is stated is an important consideration in this first step in planning the analysis.

After the various possible hypotheses have been carefully considered, the researcher arrives at a small group of carefully stated hypotheses and is ready for the next step.

**DETERMINING THE TYPES AND SOURCES OF DATA.**—In the solution of any given hypothesis, it is possible to employ many different kinds of data. Thus, in the investigation of a price hypothesis the following data may be used:

1. Statements of consumers on what constitutes a reasonable price for the article.
2. Competitive prices taken from catalogs.
3. Competitive prices obtained from retail advertisements.
4. Competitive prices taken from price tags in stores.
5. Published data which show the trend of prices in this and related fields.
6. Estimates of retailers as to the prices which would obtain a maximum volume.
7. Estimates of wholesalers and jobbers as to the best price to be used.
8. Carefully controlled experiments which will yield data on the quantities taken at different price levels.

This list is by no means complete. Many other types and sources of data may be used in resolving a price hypothesis. It is obvious that the different types and sources mentioned would not yield solutions of a price hypothesis which would be of equal value. With some consideration, most people would agree that statements of consumers on what constitutes a reasonable price would be valueless, yet many researches have been made in which such data were employed exclusively. Data from list prices in catalogs would fail to reflect the effects of discounts to particular types of outlets or the effect of price-cutting. Data taken from retail advertisements would probably overemphasize the cut prices placed on items used as leaders.

Further consideration of the exact nature of the data which could be obtained from each of the eight types and sources mentioned will show clearly how important it is to make a careful appraisal of each.

The list also illustrates the further principle that at times two or even three different types and sources may be combined in a given analysis to produce the best possible solution to the hypothesis. For example, it is clear that data obtained in carefully controlled experiments are far superior to those obtained by most of the other types and sources of data mentioned. However, one would probably find it a valuable contribution to the analysis if he were to obtain published data showing the trend of prices in the field.

**PREPARATION OF THE FORMS TO BE USED IN OBTAINING DATA.**  
—Having determined the types and sources of data which will be

the most productive in solving the hypothesis set up for the study, the researcher next prepares the forms or schedules to be employed in obtaining the information. If the survey method is to be used, it will be necessary to prepare a questionnaire. If the observational method is to be employed, forms must be drawn up to provide for correctly recording the exact data which are needed. If the experimental method is to be used, a description of the form of the experiment and a schedule on which the data are to be recorded must be prepared.

**PLANNING THE SAMPLE.**—At this stage in planning the study, it is necessary to determine the exact nature of the sample which is to be taken. If consumers or dealers are to be interviewed, the researcher must decide how many calls should be made and how they are to be distributed. If the observational method is to be employed, he must determine how many observations must be taken and where they shall be made. If the experimental method is to be used, he must determine such factors as the locations at which the experiments are to be conducted, the length of time they are to run, and the number and types of stores to be checked.

Many technical questions arise in this stage of the investigation which cannot be discussed at this point. Suffice it to say that it is essential to determine in the plan how many data are to be obtained and from where they are to come. This involves a decision as to what will constitute an adequate sample in terms of the number and kind of people interviewed, observations to be made, or facts to be gathered from the experiments.

**CONDUCTING THE TEST INVESTIGATION.**—By this time the research has reached a point where the plan is ready to be tested on a small scale. Ample provision must be made for a test investigation large enough to provide some evidence that the hypotheses are proper and workable. The forms for gathering field data are tested and retested, so that, for example, the various difficulties encountered in the use of the questionnaire are overcome by revision. The instructions to interviewers or observers are tested by giving them to new workers and checking their work. Specific problems in sampling, which arise from field conditions, are discovered. New ideas for reconstructing all phases of the plan for the formal investigation are developed through repeated testing and retesting of its various phases.

**DETERMINING OPERATING PLANS AND COSTS.**—After the first five steps in planning the research have been completed, a compre-

hensive plan is prepared. The plan usually includes a statement of the purpose of the investigation and of the reasons for the setup of the operation as recommended. Copies of the questionnaires and schedules to be employed are shown, with a careful explanation of the manner in which they are to be used. A detailed statement of the sample which will be obtained and where the study will be conducted is accompanied by reasons or evidence. Finally, the entire operation is costed as carefully as possible, so that budgets may be set up to cover the total expenses of the study.

The plan which is written at this stage is usually subject to considerable later revision. At this point, however, the progress of the study will be expedited greatly if the plan is written up in the form of a complete guidebook. In the case of one comprehensive study, such a plan embraced fifty-two single-spaced typewritten pages, and was mimeographed so that copies could be placed in the hands of several individuals.

**ILLUSTRATION OF PLANNING.** The analysis of the market for the white floating soap provides illustrations of the way in which each step of planning the research is conducted. After careful consideration it was found that the answers to the following questions would best define the purposes of the investigation :

1. What is the volume importance of white floating soap? Resolving this hypothesis would indicate whether there is a sufficiently large market for a white floating soap to warrant an aggressive advertising and sales promotion campaign for a new brand in this field.
2. What are the basic reasons why people use various types of soap? The informal investigation revealed that a wide variety of types and brands of soap were being used in individual households. It also showed that many people have very strong prejudices for and against certain types. Resolving this hypothesis will measure the resistances which must be overcome if the new soap is to be marketed successfully, and the most vulnerable points of the market which might be attacked.
3. Should the trade-mark of the present soap be abandoned? Since the company had been making a white floating soap for many years, and still obtained what appeared to be a fair volume on the item, many of the officials believed that the goodwill of the old name should be retained.
4. Should the product be changed in regard to scent, size, shape, or color? The old white floating soap which the company was cur-

rently producing was very similar to the leading competitive white floating soap in these respects. If a product improvement could be made, it obviously would give the soap a genuine competitive advantage.

It is impossible within the scope of this chapter to discuss in detail the many types and sources of data which might be employed to resolve these hypotheses. On the last hypothesis, relating to possible changes in the product, the three following types and sources might be used among others:

1. Asking consumers what scent, size, shape, or color they prefer. (Survey method.)
2. Showing consumers soaps of various qualities, having them make comparisons, and giving them a free supply of the one which they prefer. (Observational method.)
3. Making up quantities of the soap in different variations of scent, size, shape, color, etc., and conducting test sales campaigns. (Experimental method.)

While these do not begin to exhaust all the possibilities, they do illustrate the different approaches which might be used. In this particular study it was decided to employ the survey method. The way in which this method was applied is shown in the questionnaire reproduced on page 339. A study of the questionnaire will indicate the exact nature of the data which were obtained in the investigation. It was decided that the source of information would be the consumer.

The next step, preparing the forms to be used, involved two things. First, the questionnaire was drawn up. Second, two kits, each containing one bar of various types of soap, were designed. These kits were used as indicated by Question 4. Kit A contained a new test bar of soap which had been developed in the experimental laboratory. This bar, called "New Soap" on the questionnaire, was essentially similar to the old white floating soap but with some changes in scent, size, shape, and color. A cake of Ivory soap, the outstanding brand in the white floating soap field, and a cake of the old white floating soap ("Old Soap" on the questionnaire), which the company had been making in the past, completed the contents of Kit A. Kit B contained a bar of the new soap and one each of the three brands on the market which represented variations in scent, size, shape, and color. The two kits were shown to persons interviewed separately, and their selections were recorded as indicated on the questionnaire.

## WHITE FLOATING SOAP ANALYSIS

Size of Household..... Nationality..... A ☐ B ☐ C ☐

1. What brand or brands of soap do you use for

- (a) Kitchen.....  
 (b) Regular Laundry.....  
 (c) Fine Fabrics Wash.....

2. What brand or brands of soap do you use for toilet and bath?

	For Face and Hands	For Bath	Why	How Long Used
Husband				
Wife				
Grown Daughters				
Children (under 14)				
Maid				

3. (a) Did you ever use Old Soap? Yes ☐ No ☐

(b) If so, for what purpose? .....

(c) \*Did you ever hear of Old Soap? Yes ☐ No ☐

(d) \*What kind of soap do you think it is? .....

Show each housewife a cake of each of the sample soaps and ask her the following questions:

4. \*\*How do you rank the soaps from the standpoint of:

Kit (A)

Scent	Size	Shape of Bar	Color
New Soap <input type="checkbox"/>	New Soap <input type="checkbox"/>	New Soap <input type="checkbox"/>	New Soap <input type="checkbox"/>
Ivory <input type="checkbox"/>	Ivory <input type="checkbox"/>	Ivory <input type="checkbox"/>	Ivory <input type="checkbox"/>
Old Soap <input type="checkbox"/>	Old Soap <input type="checkbox"/>	Old Soap <input type="checkbox"/>	Old Soap <input type="checkbox"/>
No Choice <input type="checkbox"/>	No Choice <input type="checkbox"/>	No Choice <input type="checkbox"/>	No Choice <input type="checkbox"/>

Kit (B)

Scent	Size	Shape of Bar	Color
New Soap <input type="checkbox"/>	New Soap <input type="checkbox"/>	New Soap <input type="checkbox"/>	New Soap <input type="checkbox"/>
Camay <input type="checkbox"/>	Camay <input type="checkbox"/>	Camay <input type="checkbox"/>	Camay <input type="checkbox"/>
Palmolive <input type="checkbox"/>	Palmolive <input type="checkbox"/>	Palmolive <input type="checkbox"/>	Palmolive <input type="checkbox"/>
Lifebuoy <input type="checkbox"/>	Lifebuoy <input type="checkbox"/>	Lifebuoy <input type="checkbox"/>	Lifebuoy <input type="checkbox"/>
No Choice <input type="checkbox"/>	No Choice <input type="checkbox"/>	No Choice <input type="checkbox"/>	No Choice <input type="checkbox"/>

\* To be asked only if question 3a is answered in the negative.

\*\* Please indicate rank by numbering the proper squares 1, 2, and 3. If the respondent ranks two soaps equally, indicate the tie by numbering each of their squares with the same number.

Figure 20. Questionnaire Used in White Floating Soap Research



In the white floating soap research, the fourth step of the plan involved determining the sample of consumers to be interviewed. The principles mentioned in the discussion of this subject in Chapter 21 were employed in this phase of the analysis. Statistical tables were consulted to determine the number of people who would have to be interviewed to obtain a statistically reliable sample. In order to assure a proper proportioning of the interviews, the markets to be surveyed were divided into economic areas, so that all types of families would be covered. The number of people to be interviewed in each of these economic areas was then determined on a basis of the relative population of each area. It was decided to interview every second home on one side of selected streets to assure a random distribution of the interviews within each of these areas.

In the determination of operating plans, the interviewers were assigned to specific streets in each of these districts. Supervisors were appointed to direct the work of the interviewers and to check on the accuracy of the reports. The plan for the investigation, which included a summary of the various points covered in the preceding discussion, was drawn up, with samples of the questionnaire and maps showing the exact location of interviews to be obtained.

**Collecting Marketing Data.**—The general nature of the data-gathering step is obvious. But there are certain phases of this operation which call for special consideration.

Two types of data are employed in marketing and distribution research. These are primary data and secondary data. Primary data may be defined as those data which are obtained directly for the purpose of a specific study. Secondary data are those data which have been obtained with some other purpose in mind, and which are available from general sources such as libraries or from company records. In some research investigations, secondary data play an important part. An example is quantitative market analysis, which generally uses a great mass of readily available statistics regarding the market. The principles which guide the gathering of secondary data are discussed in further detail in Chapter 22.

To the extent that the survey method is employed in the research, it is necessary to obtain interviews with individuals, asking them certain specific questions. This raises important scientific considerations relating to the technique of interviewing. If the observational method is employed, it is necessary to set up a procedure for making the actual observations. If the experimental method is used, the experiment must be very carefully conducted so as to conform with

the scientific principles involved in the application of this procedure.

In nearly all cases, a rather extensive personnel is employed. The primary emphasis in this phase of the work is upon the proper selection, training, and supervision of the people who are responsible for data gathering.

Where primary data are to be obtained, special emphasis must be placed upon carrying out the test investigation. This is essential for all types of field work, whether survey, observational, or experimental. No matter how carefully the analysis is planned, conditions which cannot be anticipated are bound to arise when the actual field work gets under way. The test investigation should be carried far enough to make clear that no serious mistakes will be encountered in the analysis and to demonstrate that the study, when carried to its completion, will be successful. If there is any doubt as to the final success of the analysis, further test work should be carried on before gathering the mass of data necessary to complete the analysis.

In the analysis of the market for the white floating soap, no secondary data were gathered at this stage. To insure a successful analysis, as soon as the original plan for the investigation had been made, a sufficient number of test interviews were conducted to make sure that there were no important errors remaining in the construction of the questionnaire and to insure that the data obtained would be adequate to resolve the hypotheses which had been set up. The investigators were then obtained, trained, and sent into the field under careful supervision.

**Tabulation and Analysis.**—Many people make the mistake of regarding the tabulation and analysis of marketing research work as a routine operation. As will be shown later, tabulation involves far more than mere counting, and the proper analysis of data calls for a very high type of training. Tabulation and analysis should not be turned over to assistants to be carried on without a specific procedure. A very definite order should be followed step by step. Each is important and calls for a thorough understanding of the techniques which should be employed. There are four basic steps:

1. Editing primary data.
2. Testing the sample.
3. Tabulating.
4. Drawing statistical conclusions.

**EDITING PRIMARY DATA.**—As soon as questionnaires or other reports have been received from the field, they should be carefully

scrutinized by a well-trained editor. The purpose of this editing is twofold: to eliminate errors in data, and to prepare the data for tabulation.

In order to eliminate errors which are found in the data, illogical, doubtful, and obviously inaccurate answers are rejected. Where there is considerable doubt as to the accuracy of the information reported from any one interview, series of observations, or experiments, the entire schedule will be rejected. Sometimes it is possible, by careful scrutiny of the report, to determine the nature of the error and correct the return.

The second purpose of editing—to prepare the data for tabulation—is of equal importance. In the editing process, many changes can be made on the reports which will facilitate and insure the accuracy of the tabulation which follows. Data will not usually be reported consistently whenever periods of time or measurements are involved. If a questionnaire reports the size of a room, for example, different linear measurements will be found, such as yards, feet, and inches. In addition, some of the schedules will report in terms of square feet or square yards, whereas others will merely give the data for the length and width of the room. A questionnaire calling for such information will, of course, attempt to standardize the answers as nearly as possible. It will always be found, nevertheless, that a certain number of questionnaires will not conform to the standards set up. In the editing, it is important to reduce all such reports to a standard unit. If machine tabulation is employed, the original forms are coded, or the data transferred to coding sheets.

Tabulations are usually made by persons, often temporary employees, who do not understand the purpose of the study or the basis on which field data have been gathered. Under such circumstances the tabulation stage itself must be made purely mechanical. Questionnaires should be carefully edited to standardize answers, and the necessity of interpretation on the part of the tabulation force must be eliminated.

**TESTING THE SAMPLE.**—In the planning of the field work, care has presumably been exercised in determining the exact nature of the sample which will be taken. After the data have been gathered, however, it is necessary that the sample be checked carefully. This is essential for several reasons. In the first place, in planning the sample, it is necessary to estimate the number of cases to be obtained and their distribution. True, this is done on the basis of theoretical principles, but these principles are subject to severe limi-

tation in practice. In the second place, many standards are set and procedures established in order to insure a sound sample. When the operation is carried out in the field, these standards and procedures may or may not have been closely followed. A third reason for carefully testing a sample is that many unforeseen elements arise in the field which may require the gathering of additional data. For example, the geographic distribution of the sample which was planned may have appeared to be sound. But as the field work proceeds, unusual conditions in the market for the product may become evident for the first time, as when the unexpected strength of regional brands makes it necessary to carry on further field work in certain sections. Fourth, a test of the soundness of the sample based upon the actual cases which are included in the analysis provides specific proof for the final report. Business executives, as well as research men, raise frequent questions about the soundness of the sample employed in marketing research. If one can demonstrate that he has carefully tested the sample involved in the study, he will avoid embarrassment and create confidence in its results.

There are two phases in the testing of the validity of a sample used in marketing research—the test for reliability or stability, and the test for proportionality.

The test for reliability or stability is made in order to determine that enough cases have been obtained to eliminate accidental errors which creep into a sample as a result of finding certain types of cases more or less frequently than they appear in the total market. For example, as one proceeds down a street in a house-to-house survey, making his first calls, he is likely to encounter an unusually large number of persons using particular brands of a product. In a study for kitchen cleanser, one might find that four out of the first five families interviewed happen to use Old Dutch cleanser. It is obviously necessary to continue the interviewing until enough calls have been made to make sure that this ratio is correct.

Various statistical methods which establish the stability of any given sample have been developed. After one of these tests has been applied to the sample, the researcher knows whether it is necessary to obtain additional data.

The second phase of testing the validity of a sample is to check it for proportionality. The principle of proportionality requires that each significant group which exists in the total market should be found in the sample in the same proportion as it is found in the total market. Suppose, for example, that one is making a study of the sources used by automobile owners for repair work, and that there

are significant differences for owners of different types of automobiles. It is necessary that the relative number of owners of each type of automobile be found in the same proportion as they occur in the total market. If 12 per cent of all automobile owners have high-priced cars, approximately 12 per cent of the sample should be owners of this type of automobile.

In the event that the test for proportionality shows that there is a significant discrepancy between the proportionality of the sample and the group known to exist in the total market, the researcher must obtain the necessary proportionality by one of the methods described in Chapter 23.

**TABULATING.**—After the field data have been edited and the validity of the sample established, the researcher is ready to proceed to the third operation in tabulation and analysis. This is the actual tabulation of the data. The purpose of the tabulation is to provide a series of tables which summarize in the most usable form the quantitative results of the study. While in one sense tabulation is essentially a counting procedure, it should be borne in mind that effective tabulation involves much more than accurate counting. In the first place, one is faced with the question of what to count. While it would appear that the questionnaires, reports of observations, or results of experiments would automatically indicate what should be counted, there are many decisions which must be made in the tabulation stage. While straight counting is often used, as in a simple tabulation of the number of persons using given brands of a commodity, the tables which establish relationships usually provide the most valuable information. As soon as one goes beyond a mere counting of the number of persons using a given brand of a commodity and relates this use to some such element as sex, age, or economic status, significant relationships begin to appear.

**DRAWING STATISTICAL CONCLUSIONS.**—This is the final phase of the tabulation and analysis step. Here the data which have been tabulated are further manipulated until the best form of statistical summarization has been obtained. Sometimes a well-organized table is sufficient, but usually it is necessary to go further. Frequency distributions, percentages, and averages of many types are examples of forms of statistical summarization which may be used. Great care must be exercised in determining the form of statistical summarization which best fits the data and which will be of greatest value in the interpretive work to follow. Sometimes it will be found that more complex forms of summarization, such as the various

measures of dispersion and correlation, will prove of value. The chief problem is to select the type or types which will state the conclusions in the most useful form.

The study of white floating soap presents some interesting examples of problems encountered in the tabulation and analysis stage. The first step after the collection of the data was to edit each questionnaire. The supervisor went over every schedule carefully with the interviewer, checking all doubtful points. Many errors on the part of housewives were detected. It was found that the interviewers made many mechanical errors in recording data. The most serious mistakes, however, were those which appeared as a result of the prompting which interviewers gave to the consumer in order to facilitate the interview. By challenging results which seemed improbable, it was found that interviewers had presented leading questions the answers to which did not represent the facts. Entire questionnaires were rejected in some cases. In others, the answers to individual questions were thrown out before the tabulation. In this way the errors made in the gathering of the data were eliminated.

The questionnaires were also prepared for tabulation. One problem was to reduce all answers to common units, as in the last part of Question 2 (page 339) which asked, "How long used?" Some of the different units found in answers to this question were days, weeks, months, and years. Several questionnaires showed the month and year in which the family had begun using the particular brand. All of these different replies had to be standardized in the single unit of months, which was selected as the basis for tabulation. In Question 3(b), which asked, "If so, for what purpose?" it was necessary to establish classifications to be used in the tabulation. Most of the questionnaires had a different answer to this question, yet 80 per cent of the answers could be grouped into five major classifications. By setting up these major classifications in advance, it was much easier to tabulate consistently and accurately. The answers to other questions were standardized in the same manner.

After the questionnaires had been edited, they were subjected to various tests for the soundness of the sample. First was a series of statistical tests for reliability and consistency. Using the Cumulative Frequency method, described in Chapter 23, it was found that the sample was well within the limits set for reliability. Accordingly, there was no need to conduct further interviews in order to attain a reliable sample, because additional calls would not change the statistical results significantly.

After the tests for reliability, the questionnaires were tested for proportionality from different economic groups and nationality groups. The test showed that the sample which had been gathered had too few families in the high and low income groups, when compared with the proportions in which each group existed in the total market. The question arose, therefore, as to whether more interviews in the high income and low income groups should be obtained, or the results tabulated separately by income groups and then weighted by the proportions in which they existed in the total market. In view of the fact that the discrepancy was not particularly serious and that the sample was low in both the high and low income groups, it was not considered necessary either to obtain more interviews or to make an adjustment for proportionality.

After the sample had been tested, the tabulation sheets were drawn up. Several alternative forms for tabulating the data were considered. Each question might have been tabulated separately, but this would disclose no significant relationships, except those which were inherent in Question 2. It was, therefore, decided to tabulate all questions by the economic status of the family and the size of the household, and to tabulate Question 4 by the type and brand of soap being used by the person whose selections were observed.

To insure accuracy and economy in the tabulation, forms which could be used with a minimum of effort were drawn up. It was found, for example, that by transferring the headings of a proposed table from the top of the sheet to the side, the work of counting was considerably minimized. The tabulators were separated into groups, each of which specialized in certain phases of the work, in order to establish a more economical routine. A method of checking the accuracy of the work of each group at different stages in the tabulations by the supervisors was established. The results of the tabulation were summarized in a series of carefully headed tables.

After the tabulation had been completed, it was necessary to choose the forms of generalization in which the results should be stated. The information obtained on brands in Questions 1 and 2 was grouped into various types of soaps, each of which was further broken down into the leading brands and "all others." The percentage of all families using each major color, shape, size, and scent type of bar soap was then calculated. In Question 2, the data on the length of time used were expressed in a frequency distribution, showing the percentage of families who had used each type less than one year, from one to two years, etc. Question 4 presented

some interesting possibilities of statistical generalizations. In addition to the correlation of the answers with other facts, such as type of family, nationality, and brand used, the importance of the various elements of scent and size was determined on the basis of ranks assigned by the persons interviewed. This might have been done by a weighting process which would give three points for every first choice, two for every second choice, and one for every third choice. The total "votes" which each brand or type received would measure its popularity. This is a very common procedure, but it would not have been nearly so productive in this case as another which was used. It was found that a direct analysis of the number of first and last choices proved most revealing, so the results were stated in comparisons of "positive" versus "negative" rankings.

**Interpretation.**—In the interpretation step, the inductive generalizations in the form of the statistical conclusions of the preceding step are interpreted into a series of recommendations on marketing policies. These are arrived at from the generalizations by processes of deductive logic.

Many researchers do not attempt to make specific recommendations. They are content to stop with the drawing of statistical conclusions. Such work, however, is purely descriptive and mere reporting. The interpretive aspects of marketing research appear only when the results of the statistical conclusions are translated into specific recommendations for the company.

As stated earlier in the chapter, in the interpretive stage, one begins with each statistical generalization and asks himself, "What does this mean to the company?" Sometimes the answer is easy. In the study of white floating soap, it was found that:

1. A very negligible number of persons were using the soap which was currently on the market.
2. Many people who had formerly used it (usually several years ago) used it for special purposes which were no longer important in view of changed living habits.
3. The name was associated with a special use which was no longer significant.

It was clear, then, that the firm should market a new soap with a new name if it hoped to obtain a large volume. On the basis of the conclusions which were found in the tabulation and analysis, it was recommended that the company develop a new product with certain definite specifications regarding shape, size, and scent, and that the name be changed. Finally, a plan was presented for the aggressive



marketing of the new product, using localized test sales and advertising campaigns.

**Presentation of the Results.**—It is a truism among seasoned marketing researchers that the form in which the results of an investigation are presented is the most important single element in obtaining acceptance of its conclusions and recommendations. Unfortunately, one of the most difficult problems of novices in this field is to learn how to write a clear, convincing report, and to develop a dramatic presentation which will obtain the greatest possible acceptance.

In general, there are two types of reports used in marketing research—the popular report and the technical report. While they are usually combined in one physical unit, a more effective report will generally be prepared if the writer keeps the two essential forms clearly in mind. The popular report, as the name suggests, is developed in dramatic form and briefly shows the highlights of the investigation. It is prepared primarily for the consideration of the major executives of a company. The technical report is a very comprehensive, detailed, scientific document. It contains all the evidence obtained in the investigation, presented in such form that a trained research man will be thoroughly satisfied as to the technical accuracy of the work.

In the white floating soap study a complete technical report was prepared. This report was written on business stationery (8½ by 11 inches) and permanently bound. It contained a statement of the purpose of the investigation and a detailed description of the procedures employed, including samples of the forms used. Detailed tables as well as charts were included. In addition, the results of the tests of the sample obtained in field interviews were shown in the Appendix. This report was submitted to the firm, and studied by its research division.

The popular report for this study took the form of an easel presentation made up of approximately twenty-five large pages, most of which were charts. The report was given a title which established a theme to obtain a continuity in the entire presentation. A series of dramatic charts summarized the most important findings of the investigation and led step by step to the final conclusions and recommendations. This report was presented orally to a meeting of the executives of the firm.

**Follow-Up.**—The ultimate test of the value of a marketing research lies in the results which have been accomplished when its

recommendations are put into effect. Unfortunately, however, the general impression made on executives, the technical skill with which the work has been done, the dramatic presentation of the findings in conference, and similar superficial phases frequently receive undue consideration. What really counts is the degree to which its conclusions are adopted in business practice. The researcher, in self-defense, must appreciate the importance of these more obvious and superficial aspects of his work. However, he can feel that his existence is justified only if clearly traceable results are found in the actual operation of the business.

The follow-up stage should first take the form of carrying out the recommendations of the study on a small scale. By such a test it may be determined whether the recommendations are practicable, and the best form in which they may be carried into effect can be discovered. The results of the analysis often call for vital changes in the marketing policies of a company. Such changes should not be made too rapidly because the disturbances created by the change may in some cases defeat the values to be obtained. A careful testing of the new procedure will indicate clearly the changes demanded by practical considerations.

There are definite advantages in having the researcher take an active part in the follow-up work. In the first place, the knowledge which he has gained through his intimate contact with the marketing problem will prove indispensable in setting up a sound plan for carrying out the recommendations. Second, the actual "road test" of the recommendations of the analysis may lead to a reinterpretation of the findings, and corresponding adjustments in the recommendations. Third, actual practice in carrying the results of the analysis into operation contributes greatly to the skill of the researcher and, in turn, to the value of future studies which he will make for the company. Finally, by taking an active part in the actual marketing operations, he gains the confidence of executives and other employees with whom he will have to work in the future. This confidence is of great value in making it possible to obtain their support in later work.

The procedure for making a marketing research has been discussed in this chapter in some detail because clear understanding of the complete undertaking is essential to sound research. Some aspects are treated rather extensively since they introduce many readers to important concepts for the first time. As each step is discussed in greater detail in succeeding chapters, these ideas will be further amplified.

## CHAPTER 17

### THE SITUATION ANALYSIS

**Purpose of the Situation Analysis.**—The purpose of the situation analysis is to obtain an adequate background knowledge of the various elements which affect the marketing operations of a business. The part which this knowledge plays in the conduct of a research project was discussed in the preceding chapter.

The situation analysis supplies a broad view of the entire business operation. It enables the researcher to understand the relationship and importance of the various activities of the company he is studying. While the final investigation may be limited to only one small field of a company's operation, the researcher, to do a competent piece of work, must comprehend other marketing aspects of the business.

Both finding the central problems and solving them scientifically require that the study begin with a thorough and adequate situation analysis. The researcher must know the product, the company, and many facts learned through internal research to be able to search out the problems whose solutions will be productive. The solutions themselves are not the result of blind guesswork, but are revealed only in the light of an intelligent knowledge of the environment in which the difficulty exists.

**Situation Analysis Often Ignored.**—Despite the fact that it serves as a base or background for all the succeeding steps in the marketing research, the situation analysis often fails to receive proper attention. One reason for slighting it is that it appears to be a dull and obvious routine operation. Such a feeling regarding this stage of the work reveals a misconception of its proper function and its relation to the research as a whole. An adequate situation analysis calls for careful selection of the marketing operations which should be investigated. It is essential, at the same time, that every aspect which may conceivably contain a solution be considered, as omission of a significant element may spell failure. This selection of what is to be investigated demands a keen analytical evaluation since the real creative result of the marketing research may depend

upon the correlation of factors which do not, on the surface, appear to have any bearing on the problem. The situation analysis when properly conducted is, therefore, no dull and obvious routine.

A second reason for the situation analysis being frequently slighted is the fact that many analyses are conducted under the pressure of short-time limitations. It takes time to make an adequate situation analysis before planning and prosecuting the study. Those who sponsor and pay for the research may be impatient, and their desire to obtain results as quickly as possible, often coupled with a lack of understanding of the amount of time required for various aspects of the study, causes the researcher to attempt to do his work as rapidly as possible. In his own eagerness to get into the production end of the work, such as field interviews, the researcher, in turn, may omit the situation analysis or make only a hasty, incomplete survey.

There is also too prevalent a tendency to identify marketing research almost entirely with outside operations, often to the exclusion of internal research based upon study of company records. It is true that the bulk of time and effort devoted to marketing research involves the extensive gathering of external data regarding the market and channels of distribution from such sources as consumers and dealers. Nevertheless, there is a growing appreciation of the value of research employing data available within the enterprise itself, and it is most important that the entire research undertaking begin with a thorough situation analysis, based on internal research.

The situation analysis is also often neglected because of the illogical assumption that it will introduce bias and prejudice into the study. One of the common mistakes in marketing research is the supposition that in order to develop a fair and impartial analysis, the researcher should know as little as possible about the product, the company, its past history, and other elements in the environment of the problem which he is attempting first to find and then to solve. This attitude is often expressed in the form of statements to the effect that an outsider who has no prejudices is necessary for the best work. Businessmen often refuse to divulge information about the firm in the belief that such a policy will lead to better research.

Nothing could be further from the truth than such assumptions. Instead of obtaining merely unbiased results, the firm will probably obtain poor results. When the researcher is "kept in the dark," the problem presented for solution exists in a vacuum, as it were, and there is no basis for truly scientific research. As a scientist, the researcher must be able to retain an impersonal attitude toward the

whole study. If familiarity with the facts of the case distorts his objectivity, he is not scientifically qualified to conduct marketing research.

**How the Situation Analysis Is Made.**—The situation analysis is primarily the personal work of the individual in charge of the research. Although from time to time it may be necessary to employ assistants in the compilation of data, such compilations are not detailed or extensive unless they become a major part of the research itself. In this first step the researcher is primarily concerned with building an adequate background for his own thinking, so the emphasis is placed upon browsing over a wide range of topics. No particular effort is made to assemble the information in any special form other than to gather it at one central point where the project director may refer to it from time to time to help his own thinking in planning the investigation.

The chief sources of information for the situation analysis are company records, libraries, trade and professional publications, and reports of previous marketing research studies.

Reports on past studies, whether available in the files of the company or in printed form from libraries and other general sources, should be examined thoroughly as early as possible. Three things may be gained from studying past investigations. In the first place, the researcher will often learn about certain aspects of the market which may be investigated to advantage. Frequently work which has been done in the past was only partially productive. A repetition of the same operation at a later date may yield better results because of comparisons which will be shown over a period of time. A second reason for investigating all previous research is to avoid unnecessary duplication of work which has already been completed. A third reason is to see the results which have been obtained by the application of specific research techniques. A critical perusal of past studies may indicate that certain investigation techniques are fruitless when applied to the field in question. A consideration of the methods employed in the past and the results they obtained may lead to the development of refinements which will add much to the value of the present marketing research.

**Distinction Between the Situation Analysis and the Data-Collecting Step.**—The reader may have some difficulty at first in seeing the difference between the situation analysis and the later step of collecting data. This confusion arises because the topics to be covered in the situation analysis are those which are most frequently

made the subject for final analysis. For example, the product is the first subject considered in the situation analysis. If it is not clear as a result of this preliminary step that the purpose of the final analysis should be to determine whether the product should be changed, no further product data are obtained. On the other hand, as a result of the consideration given to the product in the situation analysis, a hypothesis relating to changing the product may be developed. In this case, a procedure would be set up to gather extensive data to resolve the hypothesis.

The relationship between the two steps may be further illustrated by a specific case. While looking over sales records during a situation analysis, a marketing researcher noticed what appeared to be an excessively large number of small orders. As a result, when he drew up the plan for the final analysis, his major purpose was to make a study of small orders to determine their profitability and what policy might be instituted to eliminate them if unprofitable. *After* the situation analysis and the informal investigation, a special sales slip was devised to be used in one branch territory and an intensive study made of thousands of individual transactions over a period of a year.

In the situation analysis, a large number of subjects are given cursory examination. The researcher browses over a wide range of topics, obtaining only readily available facts. In the data-collecting stage, one or a small number of subjects covered in the situation analysis are studied intensively. Routines are set up to obtain a large quantity of data to resolve the hypotheses regarding these subjects.

**The Use of Standard Outlines.**—Standardized approaches are of considerable aid in making the situation analysis. Many consulting organizations have developed basic outlines for this express purpose.<sup>1</sup> Some of these standard outlines are involved and filled with detail; one embraces nearly 400 pages.

The purpose of these standard outlines is to provide a logical basis for analyzing any given complex business situation. From this point of view, they appear to have small genuine value, for they usually are so complicated that it is almost impossible to obtain all the information indicated, and much of it is likely to have no sig-

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<sup>1</sup> Examples are the outlines prepared by the R. O. Eastman Company, the Crossley Company, and the "Balzari-Check Chart," published by the McGraw-Hill Book Co., Inc., New York. The R. O. Eastman outline, which is rather detailed, will be found in *Eastman Marketing Seminar*, pp. 24 ff. The Crossley Company has prepared an outline in graphic form called "The Crossindex," which provides space for checking obvious weak points in the product, distribution system, promotion details, and consumer markets.

nificant bearing on the research under consideration. The chief practical value of the standard outline is in furnishing a check list which can be turned to as a source of ideas. Used in this manner the standardized outlines may suggest many subjects for analysis which can be incorporated in the situation analysis for a specific product.

The facts which one might seek to learn about a business in making a situation analysis are almost innumerable. The prime ingredient of a sound situation analysis is careful selection of those points which have a vital bearing upon the marketing problems of the specific company and its products. It is, therefore, essential that the outline for any situation analysis shall be constructed especially for it.

### Nature of Information Obtained in the Situation Analysis

There are six major marketing factors which control the sales and profits of a company. These are:

1. The Product.
2. The Company, Industry, and Competition.
3. The Market.
4. Channels of Distribution.
5. Sales Organization.
6. Advertising.

In one or more of these factors the marketing researcher will find the clue to recommendations which will improve the marketing operations of the company. The situation analysis, therefore, centers about a survey of the *immediately available* information regarding each of these six elements.

#### The Product.—

INFORMAL TESTS OF THE PRODUCT IN USE.—The first step in analyzing the product is to obtain samples of the line and become thoroughly familiar with them from the point of view of the prospective buyer. The buyer has certain fundamental demands in regard to such features as quality, price, style, and convenience. The researcher usually has a basic appreciation of these demands derived from his own experience. In addition, there is available a good deal of literature as to the basis for consumer preferences. The project director should be familiar with this information. By approaching the product in an unbiased, analytical manner, he will often see characteristics which have been built into it as a result of

production routine, traditions of the business, or lack of appreciation of basic market demands. Such discovery points immediately toward possibilities for further investigation.

**TECHNICAL TESTS.**—Having familiarized himself thoroughly with the obvious advantages and disadvantages of the product itself, the researcher next gathers all available data on technical tests of the product. These tests indicate the efficiency of the product in doing its job, as well as showing its hidden merits and its hidden weaknesses or limitations. Technical tests reveal the efficiency of the product in relation to such special requirements for its type as, for example, color, taste, solubility, uniformity, stability, and vitamin content.

**THE PACKAGE.**—The package is next carefully examined. In view of the increasing emphasis placed upon the package as a vehicle for selling commodities, this is often a fruitful source for the researcher to pursue. Every possible aspect of the package which can influence sales is investigated. Its shelf and display value is compared with the packages of competitive products. The convenience of the size and shape is carefully analyzed. The extent to which the package suggests the merits of the product in the subtle use of color and design is observed. Examination of the container during use is important; frequently a package is quite satisfactory up to the point where the consumer opens it and uses the product, but proves unsatisfactory when in use because it is hard to handle, spills easily, or otherwise fails to maintain the high standard now demanded of packages. A marketing researcher once made a major contribution to the sales of a cereal manufacturer by developing a new package which was much easier for the housewife to open and reseal than those which were previously used.

The adaptability of the package to dealer display, to the dealer's shelf structure, and to the dealer's storage requirements is thoroughly investigated. Another important aspect of the package is the identification and recall value of the design. The efficiency of the package in protecting the product through transportation, storage, and handling in the dealer's store is also considered. The final phase of package analysis, which is given very careful consideration, is its use of consumer utility devices. The development of packages which are adapted to the special requirements of the medicine chest and the kitchen cabinet has been an important trend. The adoption of re-use containers that can be used as drinking glasses and service dishes often offers opportunities for stimulating sales.



**PRICES.**—The price of the product is investigated next. The researcher obtains not only the nominal list prices of the commodity, but also the prices which are actually in effect in various types of outlets. The extent of price-cutting and price-maintenance activities is often an important element in the marketing situation. Price variations by different types of outlets may hold the key to the solution of difficult marketing problems. The trend of prices over a period of time should always be obtained, because a simple analysis along these lines sometimes leads to broad, long-run policies which can contribute directly to increasing the profits of the company. Comparisons must also be made with the prices of competitive products.

**HISTORY OF THE PRODUCT.**—Readily available information regarding the history of the product should be studied by the researcher. A knowledge of the general development of the business, of inventions and patents involved, and of the personality of the organization is important. It is possible, however, for a researcher to waste time obtaining too much general historical data. He rapidly reaches a point at which there is nothing to be gained by seeking further information.

**METHODS OF PRODUCTION.**—Production methods should be studied to a point where the researcher becomes familiar with the general processes and materials involved. It is possible that special methods of manufacture which point to marketing opportunities that have been overlooked by the manufacturer may be developed. The standards of manufacture and inspection and the limitations on production capacity should be clearly understood. Cost of production data for various items should be obtained.

It is especially important to have the best possible information regarding the cost of production at various volume levels. Many companies strive for as large-scale an operation as is possible without knowing at which volume of operation their costs are lowest. When the researcher has information regarding the cost of production at various volume levels, he often has the opportunity to recommend a restricted marketing policy at which the volume of production will be set at a smaller figure than that which had been aimed at in the past. This may be desirable in order to reduce marketing costs, which frequently are not subject to the principle of diminishing costs, and thereby contribute to net profits.

**MANUFACTURING AND SELLING COSTS; PROFITABILITY OF INDIVIDUAL ITEMS.**—All available data on manufacturing and selling

costs should be obtained. These data may be compared later in the investigation to those for similar commodities, and may suggest wastes which can be eliminated. The calculation of the profitability of various items in the line is important in cost analysis. Often the application of simple accounting principles will clearly point to the fact that certain items offer profit possibilities which warrant giving them special consideration.

**VARIETIES MANUFACTURED.**—Special attention should be given to the number of varieties of different items in the lines produced by the manufacturer. One research firm has established its reputation primarily on the basis of simplification of the lines produced. There is a natural tendency in a business to add constantly new products, and new sizes and colors. This will sometimes reach the rather absurd point at which a company will have as many as 2,000 different combinations of size, color, and design, yet obtain 80 per cent of its sales from a small number of these items. The researcher, when he clearly demonstrates that the public is concentrating its purchases on a few items, that the dealer can operate at a better profit and faster turnover with a smaller number of items, that the salesmen will be more efficient, and that overhead costs of accounting and supervision can be reduced, may often point the way to a fundamental change in a business which will reduce marketing costs and increase profits.

**SPECIFIC USES OF THE PRODUCT.**—Specific uses of the product should be carefully investigated. Most products are designed for some one particular use, but frequently it is found that new uses may be discovered to the advantage of the company manufacturing the product. Often the net result of a marketing research is to recommend the cultivation of entirely new markets by promoting new uses for products.

**SEASONAL SALES VARIATIONS.**—The seasonal variation in the sale of the product is important in the analysis of the product in relation to its sales. By comparing the ups and downs of the sales curve during the different seasons, an opportunity may be found for developing devices to reduce seasonal changes through the addition of new products to the line, changes in the advertising policy, or changes in the sales operations.

#### **The Company, Industry, and Competition.**—

**GENERAL HISTORY OF THE INDUSTRY.**—In studying the company in its relation to the industry and its competition, one becomes

thoroughly familiar with all phases of the industry or group of industries of which the company is a part. In some cases the operation of the company is so dominated by the general characteristics of the industry that it is important to make as broad a survey of it as possible. An example is that of the meat-packing industry. The operations of individual packers are rather definitely standardized by the general practices of the trade.<sup>2</sup>

**SALES TREND OF THE INDUSTRY.**—Careful consideration should be given to the trend of sales of the industry as a whole over a period of time. The trend of the company's sales should be carefully checked against this to determine major tendencies.

It is important to determine whether the manufacturer is obtaining his fair competitive share of the existing market because the researcher must know whether the chief marketing objective of the company should be primarily competitive or whether it should attempt to convert new users to the type of product which the company makes, developing new customers among the nonusers of that type of commodity. This is often one of the most basic policy questions.

**SALES TREND OF COMPETITORS.**—The sales of important competitors, if readily available, should also be traced against the trend for the total industry. A general knowledge of the standing of the principal competitors and the variations of competitive strength by geographic areas, population groups, and channels of distribution should be obtained.

**COMPETITIVE PRODUCTS.**—The chief selling points of each of the competitors should be determined, and comparisons of competitive products made. This is necessary to determine the principal advantages and disadvantages of the product over its competition, as well as to find possible opportunities for product improvement.

**COMPETITORS' SALES POLICIES.**—Competitors' policies with regard to different types of wholesale and retail outlets should be thoroughly understood. The minimum orders which will be accepted from various types of outlets, discount plans, price-maintenance activities, and special sales and combination offers made by competitors should be learned. Salesmen and dealers can frequently contribute such information.

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<sup>2</sup> Most of the basic factual data needed regarding the industry may be obtained from the *Census of Manufacturers*, published by the U. S. Department of Commerce, Bureau of the Census.

**COMPETITORS' SALES ACTIVITIES.**—The activities of competitors' salesmen should be scrutinized through an investigation of general trade sources and from dealers. In addition, the researcher should, if possible, observe competitive salesmen in action.

**The Market.**—

**GEOGRAPHICAL DISTRIBUTION.**—Very often one may learn from various printed sources of past studies which indicate the variation in per capita consumption of the product in different regions. However, a word of caution should be entered at this point. There is a tendency to make many unproved assumptions regarding the geographic variation of sales or to report the findings of studies which are not thorough, so that these data may be relatively inaccurate.

**CONSUMPTION BY POPULATION GROUPS.**—Available information on variation in consumption by size of city and urban versus rural groups should be obtained. Such data must also be used cautiously.

**INFLUENCE OF OCCUPATION, INCOME, AGE, SEX.**—All information which may give a clue to the influence of such factors as sex, income, and occupational status on the purchase and use of the product is next investigated. While the accurate measurement of the influence of such factors may become the central operation in the final analysis, it is important to check all readily available data for general background and for possible clues for further study.

**BASIC PSYCHOLOGICAL, SOCIAL, AND ECONOMIC FACTORS.**—Basic psychological, social, and economic factors relating to the purchase and use of the product should be given careful consideration. The degree to which the purchase is emotional or rational is often important. Changes in habits, attitudes, and customs which affect the position of the product in the social structure should be considered.

**SHIFTS IN BRAND PREFERENCE.**—Previous studies should be searched for data showing shifts in brand preferences over a period of years and for any clues as to the rate of brand shifting among consumers.

Information on any other subjects regarding the consuming market as such, the types of retail stores at which consumers buy, how the product is used, and the status of the product with special market groups (such as restaurants, institutions, and other large buying units) should be carefully studied, if readily available.

**Channels of Distribution.**—Channels of distribution through which products reach consumers are in constant flux. Because of this continuous shift in methods of distribution, manufacturers are frequently tardy in discovering weaknesses in their dealer organization and new types of outlets which have become important for their products. By carefully studying the flow of goods to the market through scrutinizing company records and competitive methods of distribution, one often may find the principal clue to the solution of a basic marketing problem. Most companies use both wholesale and retail outlets. Each type should be thoroughly investigated in the situation analysis.

**Wholesale Distribution.**—

**TYPES OF WHOLESALE UNITS EMPLOYED AND TRENDS IN SALES VOLUME BY TYPES.**—In considering wholesale distribution, the types of wholesale units employed should be checked first, as well as the trends in the total volume of these different types over a period of years. This information may be readily gleaned from company records. When the data on the trend of the volume of sales through different types of wholesale outlets are contrasted with general data on the sales of these types of outlets, significant differences may often be discovered.

**TRENDS IN WHOLESALER FUNCTIONS AND SERVICES.**—A second phase of the analysis of wholesale marketing is a survey of the trends in wholesalers' functions and services. Discussions which will be found in business magazines will often indicate important trends toward the elaboration or restriction of wholesaler functions and services. These functional changes may have an important bearing on the efficiency with which the product moves through wholesale channels.

**SALES OF THE COMPANY FOR A PERIOD OF YEARS TO DIFFERENT TYPES OF WHOLESALE ACCOUNTS, AVERAGE SALES PER ACCOUNT.**—An analysis should be made of the average sales per wholesale account during recent periods. Such an analysis will often prove fruitful as a basis for determining the possibilities of eliminating unprofitable accounts or developing plans for more effective sales promotions through key accounts which contribute a large share of the total volume realized through wholesalers.

**GEOGRAPHIC LOCATION OF WHOLESALE DISTRIBUTION.**—The researcher should also study the geographic location of wholesalers

to determine whether the company is adequately represented in various sections of the country.

**WHOLESALE-RETAILER RELATIONSHIPS, SALES PROMOTION ACTIVITIES, VOLUNTARY GROUP EFFORTS.**—With the development of the voluntary chain, the bond between wholesalers and retailers in certain lines has become highly important to the manufacturer. In some fields, for example, it will be found that wholesalers are active in sales promotion for the retail accounts which they serve. The nature and extent of the various activities of the wholesalers among their accounts should be carefully surveyed.

**MARGINS REALIZED BY WHOLESALE ACCOUNTS.**—Margins which are obtained by wholesale outlets should be checked. In this connection it is important that the researcher obtain accurate data on the actual margins which are realized by different classes of wholesalers. These are often different from the margins indicated by the theoretical discount structure which may have been set up, but which is not actually in effect as a result of the use of special deals and rebates.

**Retail Distribution.**—The retailer has often been characterized as the “neck of the bottle” in the marketing structure. While there is some controversy as to the effectiveness of the retailer in controlling the sales of products, there can be no doubt that it is important to the marketing researcher to know the status of retail distribution.

**PERCENTAGE OF RETAIL OUTLETS CARRYING THE PRODUCT.**—In analyzing the retail outlets the intensity of the distribution of the product should first be determined. By the intensity of retail distribution is meant the percentage of all retail outlets handling that type of product which stocks the brand manufactured by the company for which the analysis is being made. This is especially important in the case of convenience goods, such as drug and grocery products, where the manufacturer should have as close to 100 per cent distribution as possible. Such complete distribution is realized in the sale of some impulse goods, such as cigarettes, but ordinarily it is merely an ideal toward which each manufacturer strives. Whether the actual distribution of the commodity is found to be 80 per cent, 50 per cent, or 40 per cent, it is important to know if such distribution is adequate for the particular product. This analysis of the extent of retail distribution should be broken down by various items in the line, and wherever possible by geographic areas.

**TRENDS IN THE IMPORTANCE OF VARIOUS TYPES OF RETAIL OUTLETS.**—It is possible that consumers are turning toward new sources for the type of product the company is marketing, and types of retail outlets which are developing in importance should be investigated. The researcher should obtain a clear picture of the relative importance of corporate chains, syndicate stores, voluntary groups, specialty retailers, department stores, mail-order houses, and of all other types which handle the product.

**SALES OF THE COMPANY TO DIFFERENT TYPES OF RETAIL OUTLETS.**—Another phase of the retail situation to be considered is the sales of the company for a period of years to different types of retail outlets. In many instances, especially where the use of wholesalers is prevalent, it is not possible to determine quickly the proportion of the total sales of the company which flow to each type of retail outlet. However, the researcher should seek such information, in order to obtain a clear understanding of the relative importance of each kind of retail outlet, and by comparisons over a period of time, detect significant trends. This information becomes especially valuable when it can be correlated with the general status of individual types of outlets.

**IMPORTANCE OF THE PRODUCT IN RELATION TO DEALERS' TOTAL SALES VOLUME.**—The relation of the product manufactured by the company in respect to the total sales volume of each type of dealer is important. If it is found that the particular product being studied contributes a major share to the total sales volume of any given type of dealer, the researcher knows that it will be possible to devise sales promotion plans which will gain the interest and support of the dealers. On the other hand, if it is found that the item is inconsequential, all sales promotion plans must be made simple and automatic if the dealers are to use them.

**PROFITS TO INDIVIDUAL RETAILERS.**—A fifth phase of the dealer analysis is the determination of the discount structure in order to establish the margins and profits provided the retailers for the product in question. It is important here, as in the case of wholesale distribution, to distinguish clearly between theoretical margins and those actually realized on the basis of the prices received from consumers. Frequently a company will maintain traditional discount structures based upon theoretical selling prices which, because of price-cutting by retailers, are seldom actually in effect. The dealer is influenced only by the actual margin of profit he realizes.

**TURNOVER OF RETAIL ACCOUNTS.**—The rate of turnover of retail accounts may be very important in analyzing the retail situation. Wherever data on retail accounts are available, it will be possible from the sales records of the company to determine rather quickly the extent to which the company is forced to open new dealer outlets in order to replace those which are lost. While the standards for retail account turnover rates will of necessity vary between different types of business, the researcher should familiarize himself with the rates experienced by the company in order that it will be possible to determine whether this rate is excessively high or satisfactory. Frequently devices for stimulating reorders and keeping accounts active have been of value in maintaining effective retail distribution.

**SPECIAL DEALER STRATEGIES.**—Special dealer strategies which have been pursued in the past should be studied. These range from long-run company policies regarding dealers, such as credit policies, to temporary stimulants such as contests. Among the more important policies with which the researcher should become familiar are those relating to price maintenance, returns and allowances, exclusive representation, contests, premiums, and deals.

### **The Sales Organization.—**

**GENERAL STRUCTURE OF THE SALES ORGANIZATION.**—The first step in the analysis of the sales organization is to obtain a clear picture of the structure of the sales division. This includes an analysis of the number and types of salesmen, their geographic distribution, and the form of sales supervision in central office headquarters and in district or branch offices.

**SALES MANAGEMENT POLICIES.**—A clear understanding of sales management policies is important. In this connection the research should study carefully the basis of selection, training, supervising, and routing the sales force. The basis of compensation, the various incentives which are provided the salesmen, and the turnover in the sales force should be thoroughly scrutinized. Training salesmen in sales promotion work and helping the dealer to be more efficient in selling the product are other considerations. The researcher can often discover means for improving the effectiveness of the sales force through such devices as better selection, training, and compensation methods.

Whether a plan for increasing the accomplishment of the sales force is arrived at as a result of the marketing research, it is impor-



tant that the researcher understand all these phases of the sales operations thoroughly because some portion of his recommendations will almost invariably find application through the sales force. Obviously the success of the research can be greatly influenced by the care with which the recommendations are made to coincide with the ability of the sales force to help carry them into practice. If the changes resulting from the analysis, for example, center about advertising, it will be necessary to convince the sales force that the new basis of operation is sound and to seek their aid in making effective the new methods of advertising.

**JOB ANALYSIS OF SALESMEN'S DUTIES.**—The next step is to make a job analysis of the duties of the salesman. Frequently it will be found that salesmen operate in a very haphazard fashion, because little thought has been given to the function which the salesman should perform in the marketing operations. The researcher should determine carefully just how a salesman spends his time, learning how regularly he calls on his customers, what he is supposed to do by way of demonstration, dealer service, and display work. He should study the results obtained by the salesmen, how many dealers called upon are sold, how frequently purchases are made, and the average dollar value of each sale. This will lead to interest in the cost of sales—information which is likely to prove of great value because later in the investigation it may be found that the addition or subtraction of certain sales functions and territories will improve greatly the effectiveness of the sales force in promoting the sale of the commodity.

**NUMBER OF ACCOUNTS PER SALESMAN.**—The number of accounts serviced by each salesman should be determined. It is frequently enlightening to compare the number of accounts handled by different types of salesmen and by salesmen covering different geographic areas. It will often be apparent that certain salesmen are spreading their efforts out too thinly over a large number of accounts, whereas others are not provided with a sufficient number of accounts to show maximum sales efficiency. Thus, a common error is to have too few salesmen in large cities because of the comparative ease of reaching the various retail accounts. The kind of goods being sold will also condition the number of customer calls.

**COORDINATION OF SALES WITH ADVERTISING.**—The extent to which special sales efforts are necessary to support an advertising campaign should be investigated as a final phase of the analysis of

the sales organization. It is generally recognized that proper co-ordination of sales and advertising efforts is an important element in marketing success. In studying the sales operations, therefore, the researcher should attempt to form some judgment as to the extent to which the sales force backs up the work done by consumer advertising.

#### Advertising and Sales Promotion.—

ADVERTISING EXPENDITURES IN RELATION TO SALES OVER A PERIOD OF TIME.—Consumer advertising expenditures over a period of years should be broken down by different products and related to the sales of these products. It may be found that over a period of time the percentage of sales spent in advertising has shown unwarranted increases, or, on the other hand, that the company has failed to maintain adequate advertising pressure behind certain products in the line.

MEDIA EMPLOYED.—Analysis of the media which have been employed should next be undertaken. Expenditures by media (such as magazines, newspapers, radio, outdoor, and car cards) over a period of time will show whether the company has pursued a consistent and constructive policy and indicate possible significant changes in media employed.

ADVERTISING APPEALS USED.—Analysis of consumer advertising to determine the basic advertising appeals or themes which have been used is highly important, as it is essential that the most effective appeals be employed. Buying motives are subject to change through time, so it is possible that the company is attempting to convert users to their product through the wrong appeal. It is, therefore, necessary to check the timeliness of the appeal frequently.

SEASONAL VARIATION.—The seasonal variation in consumer advertising may also be important. The natural tendency of most firms is to concentrate their advertising in the heavy selling season. This is usually sound, but it is quite possible that it has been overdone and that the company failed to maintain its representation adequately during the remainder of the year. Again, it may be advisable for advertising to precede rather than coincide with the selling season.

RESULTS OF PREVIOUS ADVERTISING TESTS.—Some companies keep careful records of the number of inquiries or of the volume of sales produced by different types of advertisements and media. Scrutiny of such records will provide a valuable background, and

may point to further data to be obtained or to experiments which may be set up as a part of the final analysis.

**ADVERTISING BY COMPETITORS.**—Competitors' advertising should be thoroughly studied. In addition to obtaining copies of the published advertisements, it is possible through various services to determine the breakdown of competitors' advertising expenditures in different types of media by geographic areas and individual markets.

**DEALER-SALES PROMOTION.**—The procedures employed in dealer-sales promotion should be carefully scrutinized. The researcher should become thoroughly familiar with all materials supplied to salesmen in order to obtain dealer cooperation, such as portfolios and demonstration devices. Examples of direct mail sent to dealers with records of returns, wherever available, should be examined. Store display material (counter, window, and floor) may be collected for analysis.

**SPECIAL SALES PROMOTIONS.**—The researcher should study special consumer merchandising methods which have been employed, and where possible should become familiar with the records of the results of each effort. Among the more common strategies are the following:

1. Samples.
2. Booklets, premiums, and gift offers.
3. Contests.
4. Special devices, such as one-cent sales and trade-in deals.

**PROMOTIONS WITH SPECIAL GROUPS.**—In some cases institutional groups are buying units which represent large potential markets and require special promotional methods. Examples are hotels, restaurants, hospitals, state and federal institutions, army units, college dormitories and Boy Scout camps. With the increase in the importance of social groups, institutional units are becoming more and more significant as markets. Special promotional activities to professional groups, like doctors and teachers, should also be considered.

The preceding discussion has indicated the nature of the subjects which may be included in a situation analysis. The list is by no means all-inclusive, but is suggestive of the type of information which has been proved by experience to be generally most valuable. Its breadth indicates the importance of emphasizing internal research as a base and background for later activities.

## CHAPTER 18

### THE INFORMAL INVESTIGATION

After the situation analysis has progressed to a point where a sufficient understanding of the product, company, market, dealer structure, sales, and advertising has been obtained, the informal investigation should be begun. This step consists of talking about the product and its marketing problems with consumers, dealers, and persons occupying key positions. Careful observations of marketing methods and practices in various localities and distributing outlets are also made. In these informal interviews neither a prepared questionnaire form nor a definitely crystallized approach is used.

**Purpose of the Informal Investigation.**—The primary objective of the informal investigation is twofold: (1) to develop the hypotheses to be used in the final study, and (2) to obtain a “feel” of the market. It has already been shown that the situation analysis is in part a source of hypotheses for the marketing research. The informal investigation is even more important in its contribution to the development of these hypotheses. In the first place, the value of the hypotheses is checked by the information obtained in the informal investigation. Many of the hypotheses suggested by the situation analysis will prove inconsequential as soon as a number of consumer and dealer interviews have been made. On the other hand, these informal calls will usually confirm the importance of some of the hypotheses discovered in making the situation analysis.

The informal investigation may contribute directly to the development of the hypotheses for the research by revealing many new ones not found in the situation analysis. When one talks informally with consumers of a product about what they like and dislike, what their habits are, the motives underlying the use or nonuse of the product, and similar subjects, he is bound to acquire an insight into the vital forces affecting the market for the commodity. For this reason the quest for hypotheses becomes the central objective which dominates the informal investigation.

The second purpose of the informal investigation—to get the “feel” of the market—is difficult to explain but is nonetheless impor-

tant. Too often in research work the analyst closets himself with his thoughts to decide the lines to pursue. So much stress has been placed upon the importance of deciding the exact purposes of an analysis, that many persons will sit down at a desk with no tools other than a good supply of paper and a pencil to plan the study. An investigation outlined in this manner may be in large part mere confirmation of facts which are already known. Such an investigation will also completely overlook unknown basic and significant facts which the research should reveal. In developing a genuine "feel" of the market, the informal investigation provides many fundamental and essential ingredients. Not the least of these is that it emphasizes the qualitative aspects of the problem rather than the quantitative. Thus it insures against taking too mechanical an approach to the marketing problems of a business.

While the first purpose of an informal investigation is to develop the hypotheses for the study, there is no mechanical technique for directly finding the hypotheses. They grow on one automatically as the informal investigation progresses. They may enter conscious thought at the most unexpected moments—while riding in taxicabs, while playing bridge, or while discussing some apparently unrelated subject. One may lie awake at night, suffering from insomnia, and suddenly discover the lines to pursue in tackling the problem. The fact that the hypothesis comes upon one suddenly, and apparently of its own accord, does not mean, however, that it is to be grasped out of thin air. The exact opposite is the truth. To attempt to obtain sound hypotheses while sitting in an office is one form of "thinking in a vacuum." One must dig deeply to find the sources of these hunches or hypotheses.

The informal investigation has important by-product values in addition to its contribution to the development of a marketing research. In the process of making the investigation, it is possible that the reports of individual interviews may have considerable value in themselves. Business executives can frequently learn much from reading a series of such reports. Thus they may make a direct contribution to the general thinking of the management. An even more direct application may be found by the advertising and sales departments. A series of 50 or 100 reports on calls made in an informal investigation may provide a valuable source of ideas to sales managers or to those engaged in creative advertising work. A group of such reports was once assembled under the title "The Pulse of the Market," and furnished to the persons responsible for the preparation of the advertising for the product. The copy-

writers, in particular, obtained many ideas and suggestions from a careful study of these reports.

The extent to which the informal investigation may be pursued is almost boundless. New ideas and new facts, seemingly without end, could be obtained by carrying such an investigation on and on. However, since there are practical limitations of time, it is essential to be careful not to overdo the informal investigation. Further informal investigation work should be discontinued when important new knowledge and new ideas cease to appear.

One thought should be borne in mind. The informal investigation should be extensive enough to make sure that important regional or local conditions have not been overlooked. This means that it should not be confined to one city, but should be scattered generally throughout the country. It is especially valuable to have a few interviews with dealers and specialists in several different cities.

**How the Informal Investigation Is Made.**—In conducting an informal investigation, one usually should plan to make calls on consumers, dealers, and key individuals. There is no particular order in which calls should be made on each of these sources. Sometimes one begins with a few dealer calls, because the dealers are likely to be more familiar with the general subject than the consumers. It usually is most satisfactory to make it a point to intersperse consumer, dealer, and key individual calls in order to check constantly the ideas which have been obtained from one group against those obtained from others.

There is no mechanical basis on which to determine the number of calls which should be made in the informal investigation. The best rule to follow is to continue until it becomes clear that one is merely obtaining confirmation of the things which have been learned in previous calls. In some cases it will be found that this point is reached rather quickly, and that the hypotheses which should be laid down for the final investigation have begun to crystallize. On the other hand, it will sometimes be found that several hundred consumer calls must be made before it has become clear that nothing may be gained by additional informal interviews.

**Qualifications of Informal Interviewers.**—When the person in charge finds it desirable to employ assistants to make interviews in the informal investigation, it is essential that these people be carefully selected. This type of work calls for certain special skills which demand a higher type of individual than even high-grade field investigators. The first requisite is the ability to interest people

in a subject quickly and cause them to talk freely. While all field investigators should have this ability to a degree, it is especially important in the informal investigation.

A second requirement is the possession of ingenuity and imagination. While the person conducting an informal interview seeks to lead the thinking of the respondent as little as possible and to leave him free to introduce new subjects, it is always necessary to stimulate the discussion. If the investigator has imagination, he will keep introducing new thoughts into the conversation and thus stimulate the person who is responding to such a degree that the interview will not be confined to the more obvious subjects.

A third requirement is the ability to evaluate the information obtained and to interpret statements to bring out their true significance. Frequently a comment made by a consumer or dealer which appears to be purely incidental will provide the basis for an important hypothesis. In an analysis of the market for furniture polish, one consumer interviewed happened to have recently purchased a new dining-room set, and made the comment that she would not put a furniture polish on this beautiful new piece of furniture. This comment gave the investigator an insight into an attitude of the public toward the conventional type of furniture polish which laid the basis for the most important single phase of the later investigation.

A fourth characteristic is the ability to uncover the motives behind the habits and attitudes which are found. Most field investigators can be trained to record data accurately once they have been given to them, but the ability to probe into the psychological factors which lie behind the surface facts is rare. Frequently the key to the significant hypotheses is found only after one has dug beneath surface facts in this manner.

A fifth requirement is the ability to report accurately information obtained in an informal conversation. Since the person making an informal investigation does not have a set questionnaire to follow, there is a temptation to make the report brief and superficial. Reports should be as complete as possible, because a fact which at the time appears unimportant may later be found to be significant.

Finally, an adequate knowledge of the entire research undertaking is important. A person conducting an informal interview should know enough about the subjects covered in the situation analysis to ask intelligent questions and lead the discussion along useful lines. Accordingly, whenever several persons are making these calls, care should be exercised to discuss the findings of the situation analysis with each one so that all of them will have a clear

understanding of the things to be looked for in the interviews. Sometimes there are technical aspects of a problem which make it desirable to employ trained technicians or specialists for part of the informal analysis. For example, persons with medical, dental, or engineering training have a very definite advantage in conducting interviews in connection with certain products. If the study involves a food, home economists are in a position to secure information in an informal interview which the average investigator, no matter how skilled in the general technique of interviewing, cannot obtain. In conducting informal interviews with farmers, an agricultural agent or extension worker has a technical background which is of great value. There are similar types of technicians in nearly every field whose services may be most useful in making calls in the informal investigation stage of the research.

**Results of the Informal Investigation.**—The most important results of the informal investigation exist in the mind of the person who actually has made the field calls. Some persons believe that in conducting a series of informal interviews one obtains a subconscious grasp of the problems to be resolved in the final analysis. This understanding, it may be contended, lies in the subconscious mind of the individual and cannot be directly expressed in words. Hypotheses are often called “hunches” because they are apparently developed in large part by this subconscious process and often cannot be reduced to objective terms.

Where the individual in charge of the analysis is in a position personally to conduct the informal investigation, there is no need to crystallize its results in any written form. This is, however, an ideal which is seldom reached in actual practice. Usually one is fortunate if he personally can make a reasonable number of these calls. His work must usually be supplemented by informal interviews made by assistants.

Wherever it is necessary to employ assistants to conduct informal interviews, the results must be reduced to writing. The reports of these interviews should be running accounts of the conversations which took place. These reports are often written during the interview in notebooks. A series of accurate reports of individual interviews is the final form which the results of the informal investigation take.

It is usually desirable that certain basic information about the person interviewed, such as age and economic status, be obtained. The selection of the most important basic types of information to



be employed in the final analysis is made from these data. To make sure that such data are recorded, it is a convenience to provide a partially standardized form on which the reports may be written. A suggested form for this purpose is shown in Figure 21. By providing such a form, the results of the informal investigation are reported in an orderly fashion.

It is important to note that no statistical tabulation or analysis is generally employed in summarizing the results of the informal investigation. This is true because the informal investigation is made without any standardized questionnaire form and no effort is made to obtain a satisfactory sample in the distribution of the calls. Where a standardized form for obtaining corollary data regarding such factors as age, sex, and economic status has been used, it may be worth while to make a brief summary of the relationship between these conditions and the use of the product. Beyond this, however, there is no value in statistical enumeration.

Since no comprehensive statistical analysis is possible, there is no purpose in attempting to write a summary report of the informal investigation as a separate step in the analysis. To prepare such a general report would be dangerous in that it would tend to crystallize the thinking of persons who read the report at too early a point.

There is one device which may be of considerable value when several individuals are involved in making the informal investigation. Each person should be asked to write a memorandum interpreting his findings in the interviews in a general way. This memorandum should be written after all of the interviews have been completed. In this memorandum the individual interviewer attempts to express in writing his general impressions and observations, as well as his beliefs as to what constitutes the central problems in selling and marketing the product.

**Informal Consumer Interviews.**—In selecting areas for informal consumer interviews, it is important to scatter the calls as widely as possible. This means that all types of consumers, from low income to high income classes, people representing different marketing units, such as various race and age groups, and people living in different kinds of communities should be covered. Assuming that no important type of consumer in the area has been overlooked, it is usually wise to make a special effort to get additional calls with more intelligent and articulate consumers. One can rather quickly obtain all of the information of value from the rank and file. Among more intelligent people, however, it is possible to continue to make profitable interviews. Women who are superior homemakers, for exam-

PRODUCT_____	
a. Name_____	
b. Street and number_____	c. City_____
d. Family Structure_____	
(Age & Sex)	
e. Nationality_____	f. Occupation_____
g. Economic Class_____	h. Persons Interviewed_____
i. Date of Interview_____	j. Interviewer_____
k. _____	
_____	
BRANDS NOW BEING USED _____	

Figure 21. Form for Use in Reporting a Consumer Interview Made During the Informal Investigation

The use of such a form insures that necessary basic data will not be overlooked, yet is in no sense a formalized questionnaire.

ple, give more serious attention to the products they use and are much more advanced in their habits and attitudes than others. Consequently, the plan for distributing the calls in the informal investigation among consumers should embrace, first, a broad, general scattering of calls among all types, and second, a deliberate concentration of additional calls among the more intelligent and expressive consumers.

In planning the informal interview, it is important to bear in mind that the primary objective is to discover possible hypotheses for the study. These hypotheses will usually emphasize either a particular basis of analysis or special subjects for later analysis. The bases of analysis are market classifications, such as age, sex, nationality, and economic status. The investigator must keep clearly in mind the classifications in which the consumer being interviewed falls. As the interview progresses, he may notice that peculiarities of age or economic status have direct bearing on the information obtained. If people in the lower economic groups, for example, give a consistently negative reaction to the product, this result immediately suggests the possibility of a hypothesis which will stress learning the facts on the basis of economic groups. Similarly, it may be found that certain occupational groups respond in the informal interview in such a manner as to indicate the value of using this basis of classification in the analysis.

To find possible subjects for analysis, the interviewer must be constantly on the lookout for unusual experiences and attitudes toward the product. It is quite possible that in what appears to be a very incidental comment a consumer may suggest a line of thought which, if confirmed in other informal interviews, may develop into a basic hypothesis for the study. The investigator should be especially careful to note negative comments on the specific brand for which the analysis is being made. As certain objections are consistently reported they often point clearly to likely hypotheses. The investigator should pay particular attention to statements which indicate what the neighbors are talking about. When consumers begin to exchange experiences and crystallize opinions of a product, these attitudes are especially significant. It will usually be found in the informal investigation that consumers have been developing new beliefs and attitudes toward the product. The location and definition of these new habits, attitudes, beliefs, objections, and experiences in large measure develop the hypothesis for the investigation.

In conducting the informal interviews with consumers, it is most important to bear in mind that they must be more than doorstep calls.

The interviewer must open up a cordial conversation which does not suffer from the pressure of time or distracting influences. This means that the basic approach must arouse the interest of the consumer in the problem to be discussed. The investigator should also make it a special point to become as friendly as possible with the consumer and gain her complete confidence.

Since the investigator wishes the consumer being interviewed to talk freely about the product, she should first identify herself, and then, as quickly as possible, make the consumer feel the importance of the interview. A good way for the interviewer to do this is to tell the consumer that she has run into a problem that has bothered her, and that she is seeking help in solving it. The interviewer then asks the consumer if she uses the product, and if so, what brands. This forces the consumer to respond and lays her open to the key question, "How do you like it?" From this point on, the interviewer follows the conversation of the consumer. The interviewer, however, is careful to direct the conversation along critical lines by casually raising such direct questions as, "What are your objections to the product?" "Why do you use it?" and "Why do you use this particular brand?"

The conversation should be carried on until it becomes clear that the interviewer has exhausted all possibilities of obtaining new information and has obtained a complete case history of this consumer in relation to the product. The interviewer should have a very modest-appearing notebook or pad of scratch paper on which notes may be made casually during the conversation. It is important that this note-taking should be as unobtrusive as possible. If it appears that the consumer is conscious of the fact that she is answering questions and that her replies are being noted, the interviewer should cease taking notes for the time being. After the interview has been concluded, there are usually many points which have not been written down in the notebook which should be recorded after the interviewer leaves the house. Some researchers make it a special point to conduct several interviews without making any notes during the interview in order to insure complete informality.

In making the informal consumer interviews, it will usually prove valuable to have different types of persons make different calls. If the person in charge of the analysis is a man of fairly impressive appearance, he usually can obtain valuable information by introducing himself as an executive who has come to seek the advice of consumers. This approach flatters the person being interviewed and causes her to discuss the problems freely. A home economist can

obtain a different type of cooperation. A young man who does not appear too sophisticated can often gain the confidence of consumers and extract information which would not be given to others.

**Reports on Informal Consumer Interviews.**—The nature of the informal consumer interview is shown by the following examples from actual research projects. These reports are in the exact form in which they were written by interviewers. Parts are deleted, but each shows the general nature of the information obtained. Names of brands and persons have been disguised in several cases.

The following was obtained in an informal interview made for a dentifrice.

### REPORT 1

Ipana, Revelation, Pebeco, and Squibb's used by family. All give the same result as a cleanser, in their opinion.

Dentist's recommendation that powder is a better cleanser than paste has not influenced this family.

Husband and wife use Squibb's most. Only reason she could think of is that they like the taste.

Purchased these dentifrices originally, because she saw them on the drug store counter and believed that a high-priced article does contain best and finest ingredients. Couldn't remember the number of years these have been used in family.

The son likes Ipana especially for its flavor, thinks it cleans teeth better than the others do and finds a paste more convenient to use than a powder. To him, powder tastes like plaster of Paris.

Their teeth are in splendid condition.

The interview covered in Report 1 illustrates some of the important information obtained by these informal calls which pointed directly to possible hypotheses for a study. For example, in the case of this family four different advertised brands of dentifrices were being used. The interview showed that in the judgment of these consumers there is no clear-cut difference in the quality or effectiveness of different brands. Notice the effect of the dentist's recommendation. The way in which the importance of taste as a buying motive appeared is also interesting. The importance of dealer display as a brand influence can be readily seen in this interview. The results of a second call in this study follow.

### REPORT 2

Family tried a number of pastes and finally settled on Pepsodent and Squibb's—Squibb's because the products of that firm were always trust-

worthy and Pepsodent because recommended by a dentist and because any product so well advertised must be good. For many years the wife would buy whichever one was on sale. After reading *100,000,000 Guinea Pigs* would occasionally use salt. Was greatly affected by this book and was shocked to learn that some tooth pastes were poisonous. Said she would certainly "steer clear" of them. Found it was difficult to get children to brush their teeth with tooth paste—older girl would gag on it. One month ago man next door who was wholesale druggist gave husband can of Dr. Lyon's as a token of appreciation for a favor. Both families enthusiastic about it. Husband says he brushes his teeth more often now. And children only have to be told once. Wife finds it economical and says that although the children spill quite a good deal, they would smear the tooth paste on the wash bowl just the same. Thinks the powder more efficient than paste. Original can still in house, but next time will buy Dr. Lyon's. Wife buys.

The reader will notice in this report the importance of the general goodwill of an ethical drug manufacturer in determining the choice of dentifrice. The influence of the dentist is again mentioned. This family is using only one brand of dentifrice, and the way in which they began using it clearly points to the importance of sampling in the marketing of this product. One person, the wife, buys the dentifrice for the entire family.

A careful reading of these reports illustrates the type of information which is obtained in the informal investigation. Over 500 consumer calls were made in the survey from which they have been selected. A careful study of each of these individual reports revealed many possible hypotheses. The consistency with which certain facts appeared pointed clearly to the importance of the ones which later became the purposes of the research.

Results from another informal investigation are shown below in Report 3. This investigation was made in connection with a study for a food product which was sold primarily on a health appeal. Individual brands have been disguised in the report by using capital letters to indicate each of them. Brand A was the one for which the investigation was conducted.

### REPORT 3

Using X. Last used three nights ago. Friend recommended it. Used more when girl was ten years old and not very strong. Prefers flavor to other food drinks. Helps children to gain in weight. Has used A, B, and C, but didn't like flavor of these as well as X.

Three months ago used a small bottle of A. Doctor recommended it to grandmother during illness, and mother got some from her. Seems to be very beneficial to grandmother.

Daughters in family are now well and strong and do not need much in the way of food drinks.

Use quite a bit of cocoa. Use on cold mornings and after school. Hershey's.

No candy substitutes.

The reader will notice the basis on which the brand used by the family was bought. In spite of the fact that these products are presumably used primarily because they are healthful, the taste of the product is clearly a primary buying motive. This angle was brought out most clearly in connection with the products which have been used but which have since been discontinued. Notice that the product for which the analysis was being made had been used, as a result of the specific recommendation of a physician, exclusively for health purposes. Reports of this type were very valuable in planning the formal research because they indicated clearly that a new type of selling and advertising approach would be necessary to expand the market for Product A. This probability became the hypothesis for the final investigation.

**Informal Interviews With Industrial Users.**—In a research for an industrial product, informal interviews with buyers or users are especially valuable, because these persons are usually well informed and possess extensive technical knowledge. Furthermore, in view of the fact that industrial products often have a relatively small number of buyers, the informal interviews themselves frequently provide a sufficient basis for drawing final conclusions. Two reports of informal interviews with users of bearings illustrate the type of information which may be obtained from industrial users.

#### REPORT 4

This company operates 1,795 trucks of various makes. They do their own maintenance work, using 70 per cent reground bearings which they purchase from the Jones Company. They have no record of their bearing replacement cost, considering it too small an item. Well pleased with service given by Jones Company.

Mr. Smith selects the make of bearing in some cases, but usually gets duplicates of the bearing to be replaced or takes what the Jones Company offers.

He reads *Commercial Car Journal*, *Fleet Owner*, *Motor Service*, *Power Wagon*, and *Brake Service*.

Mr. Smith thinks that advertising keeps the product in mind and probably influences his selection even when he thinks it doesn't. He thought New

Departure was out of business until he saw their ads. Formerly thought their product inferior, but now thinks they are among the best.

### REPORT 5

Operate 103 trucks of various makes but have more Fords and Chevrolets than anything else.

They do their own maintenance work. Has no idea what his bearing replacement costs might be.

Does not use reground bearings for any truck except the White, but believes reground bearings as good as new bearings.

Buys most of his bearings from truck sales agencies and some from Hanson Bearing Company. Does not specify make of bearing. He merely gives the size and where it is to be used and lets the vendor decide what make of bearing to send. Must be able to get rapid delivery.

Seldom sees any bearing salesmen, but they seemingly have little or no influence.

Reads *Commercial Car Journal*.

He replaces more ball bearings in Ford transmission assemblies than in any other truck and estimated that he bought between 100 and 150 ball bearings a year.

These reports illustrate some of the special types of information which are brought out in informal interviews for industrial products. Notice that the buyers were asked for performance records and cost data. The experience of the individual companies in using the product is a most vital point in this type of interview. The reports also show that the sources of supply are generally important. They also indicate that the investigator was interested in learning the special magazines read by these buyers in order to determine possible sources of influence. In this type of informal consumer interview, the lead question usually relates to the experience of the company with the types of products which have been used; emphasis is on cost data, performance records, and service furnished the user by his different sources of supply.

**Informal Dealer Interviews.**—In most marketing research it is important to make informal calls on both wholesalers and retailers. Wholesalers are included even if they are unimportant in the distribution of the product of the manufacturer for whom the research is being made. The chief advantage of making a number of wholesaler calls lies in the fact that these merchants have a very broad picture of the entire marketing operation. Wholesalers make it a special point to keep well informed on the types of products which are currently in demand. The individual wholesaler is also espe-



cially well informed about the market in the territory which his firm covers, and he is thoroughly familiar with the retail dealer structure in this area. Finally, the wholesaler is usually an important source of information on general market trends and on current developments.

Two types of persons who are valuable sources of information will be found in most wholesale establishments, and should be interviewed. First, there is the general executive or merchandise manager type. Such a person is likely to be particularly valuable as a source for obtaining a broad, general understanding of the condition of the market and the merchandising structure which prevails. The second type is the buyer of individual products. In the larger wholesale organizations, these buyers are highly specialized, and in view of their specialized knowledge of individual types of products, are an important source of information in an informal investigation.

An example of an informal interview with a wholesale executive follows.

#### REPORT 6

Mr. Jackson, buyer for the Anderson Company, believes that there exists a very definite market for an acceptable antiseptic for local skin infections, particularly one to sell at about 50 or 60 cents.

"Hitzit" is the only preparation in this field that is doing a really satisfactory job; but its list price is \$1.25, actually selling at from \$1.09 to \$1.19 in most stores. It has done extensive advertising directed definitely at combating athlete's foot. Mr. Jackson believes that a lower price for an equally acceptable brand would place it in a ranking position among other brands in the field.

However, Mr. Jackson warned against the dangers of too rapid expansion, quoting from his experience the large number of brands which have appeared in this field only to disappear within a short time because of lack of sound financial backing. His recommendation is for such a firm to strive first for sectional distribution by mushrooming around its present locality, supporting this growth, however, with as much local newspaper advertising as the volume of the product would permit.

If the present list price is 50 cents, add 10 cents, making it a 60-cent item, using that differential as the basis for an advertising appropriation.

He also suggested that such a product could be much better sold through a reputable brokerage house than through the manufacturer's own sales channels.

He added that their volume of sales of "Hitzit" would approximate \$10,000 annually and estimated that the total annual sales of "Hitzit" would probably not exceed \$500,000. Admittedly a small field, Mr. Jackson felt positive that an acceptable and scientifically sound product, popularly priced (sug-

gested 60 cents), and aggressively advertised and merchandised, could attain a much higher volume position than the now existing leader and could reach a higher degree of saturation among potential users than now exists.

This report clearly reveals the breadth of the knowledge of the wholesale executive. The reader will notice the value of this source in reporting general market conditions, competitive positions, prices, and in interpreting the market possibilities for the product. They possess a great amount of trade information as a result of their continuous contact with manufacturers and important retailers. Interviews with these individuals are particularly valuable in warning the researcher against the pitfalls which should be avoided, especially in his interpretation and recommendations.

Informal interviews with executives of central and district headquarters for chain-store systems should be included in the wholesale calls. While chain stores are regarded as retailing organizations, it should be borne in mind that they are carrying on the functions of wholesalers in their central operating organization. Possibly it will be found that chain-store executives have a much better grasp of the marketing situation than the executives of wholesaling organizations. One reason for this is that chain stores usually maintain very complete sales records.

**Informal Retailer Interviews.**—Interviews with retailers are an essential part of the informal investigation. The function of a retailer has been defined as that of a purchasing agent for his customers. He continually meets the consumer face to face when he is making the final decision to buy and presumably reflects his desires in the conduct of his business. Retailers are an especially valuable source of information about local market conditions. Another important phase of the informal interviews with retailers is the observations which the investigator makes while in the store. Since this is the point at which the final influences of advertising and selling work themselves out, a penetrating observation of such matters as display materials, stock on hand, brand, prices, and merchandising devices is most valuable.

In conducting informal interviews with retail stores, the calls should be distributed in essentially the same manner as those made on consumers. That is, an attempt should be made to include all types of outlets in the investigation, but a good share of the calls should be concentrated in the larger stores. The managers of supermarkets and large independent retail stores, for example, are naturally more efficient retailers than operators of small stores, and their

opinions and comments are likely to be much more productive in suggesting hypotheses for a later investigation than those of the smaller outlets.

While there is no doubt of the importance of making calls on retail stores in the informal investigation, the researcher should keep clearly in mind the limitations of this source. The retailer usually has hundreds of customers to whom he sells thousands of different items. He is engrossed in the many details of shopkeeping. The time which is spent in supervision of personnel, listening to buyers, determining policies, and selling in the store precludes the possibility that he will have a broad understanding of the market for any one product. Buyers for large department stores are exceptions, and provide an excellent source of general information.

It is important to bear in mind that the retailer may be considered from two different points of view in the informal investigation. One purpose of the interview may be to learn how he conducts his business, what his interests and desires as a merchant are, how he regards the product, what brands he pushes, and how the product is displayed and merchandised in his store. Or he may be interviewed as a secondary source of information regarding the consumer. The latter use is less valuable than the first. Because of the many products to which he must give his attention and the general demands on his time, the retailer is likely to be a very poor reporter or interpreter of the consumer. Except in so far as actual sales data are obtained, the retailer should seldom be used for this purpose in the final investigation except in certain specialty lines.<sup>1</sup> In the informal investigation, however, the dealer can sometimes provide a quick clue to facts about the consumer even where he sells a large variety of products, as in the case of grocery or drug stores.

Two distinct types of informal interviews are carried on with retailers. The first is the shopping call, in which the investigator poses as a prospective buyer and carefully observes the way in which the product is offered to the consumer. The second type is the "open" interview, in which the investigator discloses the fact that he is making a research.

**THE SHOPPING INTERVIEW.**—The shopping call has the clear advantage of obtaining information under normal circumstances. The interviewer is careful to make a mental note of the exact manner in which the retail salesman talks with an indifferent consumer or with one who comes into the store with an open mind. The order

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<sup>1</sup> The retailer of specialties usually handles fewer products, and has an opportunity to become much better acquainted with the consumer's desires and habits regarding them.

in which products are suggested, the amount of time devoted to each product, and the arguments presented by the retail salesclerk are carefully noted. The interviewer also observes the manner in which stock is displayed in the store, prices shown, and the various display and merchandising devices present to create demand at the point of purchase.

This type of interview is likely to be very productive. Shopping competitive outlets is a well-recognized technique in retail management. In this field emphasis is placed upon prices, styles, and the general efficiency of retail salesmanship. When the researcher makes a shopping contact, he takes a much broader point of view, observing especially the merchandising and display techniques which influence the ultimate consumer. Since most nationally advertised commodities ordinarily do not receive a great amount of direct selling on the part of retail clerks, the more mechanical demand creation devices are given greater consideration. This is, of course, not so true in the case of specialty items such as household appliances, for which the retail salespeople are carefully trained and prepared to make a sales talk.

Reports 7 and 8 show informal shopping interviews made at the perfume counters of drug and department stores. A reading of these reports will indicate the nature of the facts and ideas which may be obtained by this technique. In this particular study, emphasis was placed upon determining the kind and amount of salesmanship or "counter push" provided different competitive items. Nevertheless, valuable information was obtained on the items stocked by retailers and prices at which they were offered.

#### REPORT 7

"Good morning. I was thinking of something in the toilet goods line to give a friend. What do you suggest? Perfume? In sets? What are they giving now?"

"Perfume is our best seller by far now. Have some fine values in gifts today. Lucien Lelong has a new package—three odors in it, etc. (got the story), and also Whisper at \$5. They are our best sellers. Then we have Christmas Night, special at \$12.95, and Caron's Bellodgia at \$7.95"—these being shown off the ad which was well displayed in front of me.

Going to the case he brought out Lelong's Joli at \$5 and Whisper at \$5. I asked if women buy this for themselves. The clerk said no, they wouldn't spend the money. Women buy in bulk at \$1.25, etc. Of the three he recommended Lelong's Joli because of the new idea of three odors and the hat box.

As a gesture he brought out Dorothy Gray's compact at \$3.50. Said it was new. Showed new powder wrinkle. Put it back, and saw no other perfume

but Lelong. Got good Lelong workout. Got out Whisper wrapped box. Department looked fine.

### REPORT 8

Shalimar at \$15. Ciro's Surrender at \$15. Showed those. Mentioned Christmas Night special at \$22.50 and \$12.95, also Caron's Bellodgia and Lelong's Whisper at \$5. Gave quite a talk on Shalimar and Lelong. Directed my attention to new idea in Joli at \$5—three odors for different occasions. Mentioned Lelong was famous costumer. Showed the Whisper package on ad. Would have bought either that or Joli. Said Lelong is imported—even the bottles. Even charge them for the bottles in the window used for display. Perfume very expensive and exclusive. Good intelligent reasoning used. Knew his business.

Ad well displayed on the counter. The department looked good. The department was 1½ months old, and they are proud of their new department.

These examples do not begin to exhaust the possibilities of employing the shopping technique. One variation is to station an observer in stores during rush hours to note how customers buy and the way in which salespeople handle them. In some cases it is very revealing to note the kinds of people who purchase specific commodities. For example, a series of observations made at the counter at which dentifrices were purchased completely changed the conception of one manufacturer as to who buys tooth paste and powder.

In the case of specialty products, such as household equipment, the informal shopping interview has special advantages in learning the basis on which competitive salesmen attempt to make sales. An automobile manufacturer who made informal shopping calls learned for the first time about two very vulnerable points attacked by competition. As a result of these informal shopping interviews, a research which employed the shopping technique throughout confirmed the original hypotheses, and contributed greatly to the efficiency of the sales organization of the manufacturer.

Report 9 shows the results of an informal shopping interview made for a specialty product. Individual brand names have been deleted. Brand A is the one for which the study was made.

### REPORT 9

This store carries the X, Y, and Z. Mr. Bigham showed me the features of each machine and it was hard to determine at first which machine they pushed, but finally learned that it was the Z.

He insisted on showing me the quietness of the motor in the Z and the advantage of having the motor placed so that the bottom shelf was easy to get to.

The very best price he could make me for cash was 5 per cent off on the X and 2 per cent on the other two machines. He said they carry the three kinds of machines so they could satisfy a larger number of people, as some wanted the belt-driven machine while others preferred the sealed motor.

Mr. Bigham states that many times they have people call them for service on their A, sometimes when they have one of the other makes.

The A is a good machine with a good standing and a good service. Reliable and well advertised but can be bought in Jacksonville as low as "nothing down."

It is interesting to notice in this case how the operator sensed an opening and began bargaining with the salesman to determine the extent of price-cutting. Notice also how the effectiveness of competitive selling was indicated by casual reference to the brand for which the study was being made.

**THE OPEN INTERVIEW.**—The second type of retailer interview is the open interview. In this type of interview, the investigator introduces himself as an independent, disinterested researcher making a general study in the field or making a study for a particular brand. The essential characteristic of the open interview is that the dealer realizes that he is talking to an individual studying the market for a product.

The advantage of conducting open informal dealer interviews is that the dealers will usually talk very freely, especially in voicing their complaints. The disadvantage is, of course, that the dealer is making a conscious effort to provide information, and is, therefore, likely to take a more biased position than in the shopping type of interview.

Excerpts follow from two reports which illustrate the kind of information which may be obtained in open informal dealer interviews.

#### REPORT 10

Handles A, B, C, D, and E. Does not handle any ironers.

C is the leading washing machine in Pittsburgh and B leading nationally.

All of the washing-machine companies are interested in volume. B is trying to cooperate and is accomplishing a good deal. Not much money in washing-machine business. The dealers just about make wages. The markup is not big enough. Manufacturers are so eager for volume and there are so many chiselers in the business, that you can find washing machines in every basement, hardware, department store, and electric shop in Pittsburgh.

This dealer is distinctly sour on pushing washing machines. His main volume and main profit is on refrigerators. He sells X, Y, and Z refrigerators.

## REPORT 11

Xerxes' leading market is in Chicago. The market is currently so strong that the factory is having a hard time keeping up with production. This outlet is not guaranteeing delivery of any orders after July 1. 75,000 machines were sold in the past four months. The new Superb is a seller. This outlet is planning a new campaign for fall. Ironers are selling better than they were. Xerxes' new "fold-up" ironer, built like a folding chair or cabinet, is doing a great deal to stimulate sales. All of the Xerxes outlets in the Chicago market sell a combined total of 500 units of Xerxes' ironers per month. Xerxes is particularly good on servicing, and in backing up guarantees.

This outlet also sells Norge refrigerators and stoves, and Chambers stoves.

**Informal Key Interviews.**—Informal interviews should almost always be made with certain types of individuals to take advantage of their special experience and special knowledge. There are five general classes of persons who occupy key positions which give them such experience and knowledge.

1. *Executives of the company for which the study is being made.* Many of these executives will have been previously interviewed in the situation analysis. However, it is likely that some of them can be reinterviewed to advantage during the informal investigation, and others not included in the situation analysis may be added.

2. *Salesmen and other employees in minor positions with special knowledge.* While some people of this type have also been interviewed in the situation analysis, it will usually be found that it is desirable to make more extensive interviews among this group in the informal investigation. Nearly every employee of a company has many ideas which he is anxious to express. Informal conversations with these people will often be productive in suggesting possible hypotheses for the study.

The importance of obtaining adequate coverage of the sales force in the informal investigation merits special attention. In the situation analysis one learns a great many facts about the general sales structure of the company, including general sales management and sales training policy. It is always a good practice, wherever possible, to follow this up in the informal investigation by traveling with several salesmen to observe the manner in which they conduct their daily work. By watching closely the actual selling process where the orders are being obtained, one sees all of the elements in the selling operation undergoing their ultimate final test. In observing the work of salesmen, one obtains greater understanding of the

effectiveness with which sales policies are executed. The reactions of buyers, the sales arguments which are successful and unsuccessful, and the conditions in retail stores which block sales are examples of the knowledge gained by observing sales interviews. A few days spent with meat salesmen making their routine calls, for example, once showed a researcher the possibility of carrying out a study designed to determine methods by which salesmen could be rerouted and given special training to increase the number of productive calls and the frequency with which dealers would be covered.

3. *Competitors.* Some researchers make it a special point to interview key executives with competitive firms. Executives who will talk quite freely about their business and the industry may be found in most companies. Managers of competitors' local sales branches are often a very productive source of information.

4. *Executives of advertising media.* Both the general magazines and those devoted to special interests (such as industrial and trade papers) have employees who are well informed about the markets for individual products. In selling their space, these media are in constant contact with the different manufacturers and have built up a fund of information over a period of time. Furthermore, the practice is growing of soliciting business on the basis of knowledge of the marketing problems in each particular field. In view of the extensive knowledge of these executives, it is desirable to include them in the informal investigation.

5. *Specialists in the field.* For every product, there are certain specialists who possess important technical knowledge. For a drug item, there are doctors, dermatologists, pediatricians, and dentists, whose opinions should be considered. For food products, there are dietitians and home economists. For mechanical products, there are engineers, architects, and designers. The specialists who may provide useful sources for informal key interviews range from agricultural agents, airplane pilots, and football coaches to veterinarians.

**Reports on Key Interviews.**—Because of the many different types of persons who may be included in informal key interviews, it would be too laborious to show an example for each type. The following report shows the results of an interview with a speculative builder, made in connection with a research for air conditioning.

## REPORT 12

Mr. Clark seemed pretty much disgusted with companies manufacturing air conditioning units (he refused to mention specific companies for business



reasons), because they are using "too much high pressure in their selling—they're pushing too much."

Mr. Clark feels that air conditioning is something new, but it has a most promising future. "It needs a lot of improvement and at present is pretty expensive."

He remarked that the Air Temps, a local firm backed by Chrysler, and the Carrier Company in particular have good units. The Carrier Company puts out a very complete unit. But most other companies just pick out certain parts of the unit. Most systems which are installed nowadays are a composite of several different companies' equipment. My impression was that he felt the company which put out a complete unit would do a better job.

The Banner Company is particularly interested in schools where they put in washed air. At the present time, also, they are planning on putting in air conditioning in a hospital operating room for more hygienic purposes.

"Air conditioning is purely a cooling device for lessening of temperature for summer conditions." The washed air in schools and hospitals produces this effect, it seems. Window devices are used for air cooling in some office buildings.

The contractor has little to say about the installation of an air-conditioning system becoming one of the specifications of a building. Usually it is the owner and architect who decide upon that and discuss the matter with an engineer who would probably have the final word.

Mr. Clark feels that technical information is unnecessary to him in his business, for the company makes a practice of subletting that part of a job to an engineer.

To illustrate further the type of information secured in informal key interviews, part of the report of a call on a dentist in connection with a research for dentifrices is shown below. The reader will notice the wealth of background information which was obtained from this interview. The interview was made by an experienced physiologist trained for the specific research project.

### REPORT 13

He is opposed to tooth pastes that contain an excessive amount of flavor and an excessive amount of bite, because the substances responsible for these effects are irritating to the gums. He has found witch hazel to be useful, particularly in injections for local anesthesia. He thinks that salt and water have a wonderful healing effect on gums. He thinks that salt and soda are satisfactory for cleansing teeth and also that the brush alone is quite effective. He thinks that teeth should be brushed at least three times per day and after eating foods. He thinks it very unlikely that teeth are worn down as a result of excessive brushing. Where excessive brushing does cause wasting away, he thinks it can be attributed to improper brushing.

He thinks it is very important to brush the surface of the molars to prevent food impacts in crevices in the molars that are due to improper closing of the teeth in growth. He thinks that chalk is satisfactory as an abrasive, but does not know what abrasives the manufacturers are using. He thinks that abrasives should not be too hard. He thinks that the use of a soap in a tooth paste is all right, but that an excessive amount should not be used, because it would be irritating to the tissue. He thinks that soap-containing tooth paste penetrates the space between the teeth more satisfactorily than a non-soap-containing dentifrice.

He is not particularly enthusiastic about the use of antiseptics in dentifrices. He thinks that perhaps in some cases it is all right, but in some not necessary. He thinks that sampling by mail is just as effective as sending detail men around, considering the relative cost involved.

This chapter has shown the purpose and the importance of the informal investigation in marketing research. The procedure to be followed and the kind of information developed in this step have been discussed and illustrated. With the results of a comprehensive situation analysis and a penetrating informal investigation at hand, the researcher should be adequately prepared for the crucial step of planning the formal research project.

## CHAPTER 19

### PLANNING THE FORMAL RESEARCH PROJECT

The planning of marketing research is, in a very real sense, the most important single step in marketing research procedure. The success or failure of the entire investigation hinges largely on the care with which the planning step is executed, for all the activities which follow are necessarily dependent upon the skill with which the plan has been developed. Unfortunately, this step is often handled rather superficially for several reasons: lack of a specific program for developing the plan, unwise hurry to obtain the final results, failure to appreciate the importance of exploratory work, and failure to provide adequate funds for this phase of the research.

By carefully following an orderly and logical procedure in preparing the plan for an investigation, the research director may avoid many errors. Care and patience at this stage can contribute a great deal to the success of the formal research project. A suggested procedure for the planning stage follows each of the operations listed below in the order given:

1. Determining the specific purposes of the investigation.
2. Determining the types and sources of data to be obtained.
3. Preparing the forms to be used in collecting data.
4. Planning the sample.
5. Conducting the test investigation.
6. Determining operating plans and costs.

Steps 1 and 2 will be discussed in this chapter, step 3 in Chapter 20, and steps 4, 5, and 6 in Chapter 21.

#### **Determining the Specific Purposes of the Investigation**

Determining specific purposes is the first step in planning the formal research project. At this point, all that has been learned in the situation analysis and the informal investigation is reduced to a few basic hypotheses. The selection of these specific purposes deter-

mines the nature of the entire investigation. If those purposes have not been properly crystallized, it is almost certain that the research staff will wander around aimlessly, obtain unsatisfactory data, and arrive at foggy conclusions. On the other hand, if the purposes have been carefully and wisely selected and are stated as *specifically* as possible, the investigation may proceed to a successful conclusion. It is at this point that the experience, intuition, and skill which mark the outstanding marketing researcher are clearly in evidence.

The final objective of this first step is a clear, concise statement of the specific purposes of the analysis. Therefore, the researcher should take the various hypotheses which have been discovered in the situation analysis and informal investigation, and determine the specific ones which are to become the objectives of the formal research.

**Functions of the Hypotheses.**—The hypotheses serve two functions in this stage of the marketing research. The first is to limit the investigation to certain specific purposes so that it may proceed scientifically. The second function is to clarify the thinking of the researcher by enabling him to project his thought at the time the investigation is being planned to the probable solution of the problem.

A company once spent a large sum of money for a marketing research. The result was a comprehensive report which went into vast detail regarding methods of merchandising and advertising. After its completion the study was received with considerable enthusiasm. A checkup a year later, however, showed that not one actual change in the marketing methods of the company, which could be traced to this analysis, had occurred. The work had been done by an individual who was considered a competent marketing researcher, and all the generally recognized standards for marketing research work had been observed. The study, however, was spread over so many different aspects of the marketing operation and filled with so much confusing detail that it was fruitless.

About a year after this expensive research was made, the company engaged another individual to study its marketing problems. This person spent considerable time in a situation analysis and informal investigation to guide him in planning his marketing research. As a result, he put his finger on one central problem. This was the excessive sales effort which the company placed on products sold in large volume but at a small profit. The cost of the analysis was much less than the previous one, and at its completion it became clear that the company should shift the emphasis in its marketing activities

to more profitable lines. As a result, the company changed its marketing operations, with a clear improvement in efficiency. By being careful to limit the study to a workable hypothesis, the researcher was able to produce a highly successful and important piece of work.

Regarding the second function of the hypotheses, one often finds that it is necessary to reject many suggested hypotheses because it becomes clear after some consideration that they would be insoluble within the limits of the study.

This statement of the functions of hypotheses indicates the standards which should be set for sound hypotheses. Since the first function is to limit the study properly, the first standard by which a hypothesis should be measured is, "Does it strike at a specific marketing problem of the company?" Since the second function is to crystallize thought as to the practicability of the trial solution of the problem, the second standard for a sound hypothesis is, "Can it be solved by the techniques of marketing research?"

**Steps in Stating the Purposes for the Investigation.**—Unfortunately there are no mechanical means or devices for the extraction of the hypotheses or purposes for the investigation. All one can do is to make sure that the situation analysis and informal investigation have been conducted with sufficient care so that these hypotheses will arise from a sound background. The ability to select the most important hypotheses and state them in their proper form comes largely from practice.

As a means of avoiding confusion and waste effort in arriving at the final statement of the purposes of the marketing research, however, the following steps are suggested:

1. Prepare a written list of the possible purposes which have accrued from the situation analysis and informal investigation.
2. Select a relatively small number, usually from one to five, of these hypotheses on the basis of the standards discussed previously.
3. Restate each hypothesis or purpose in the best possible form, to insure its solubility.

By deliberately devoting time to each of these three specific steps, the researcher can crystallize his thoughts and write a compact statement of the purposes of the analysis.

The second operation—selecting the few hypotheses to be pursued further—is highly important because the tendency to attempt to solve too many of the marketing problems of the company in one

analysis is very common, especially among people who lack a broad research experience. If one spreads out his efforts over a large number of purposes, he is almost certain to dissipate his energies, to become entangled in a confused operation, and to fail completely to produce a sound and convincing result. It is, therefore, the job of the researcher at this point to evaluate carefully all the various possible hypotheses, and to reject those which are impracticable or which do not have a vital and fundamental bearing upon the marketing success of the company.

The third operation merits careful attention, because out of a clear statement of purposes come the ingredients of the successful marketing research.

Sometimes a hypothesis is encountered which is so fundamental that the entire analysis is restricted to the solution of this one problem. An example of such an analysis is a study made for an automobile manufacturer. The researcher, in talking with consumers and dealers during the informal investigation, found that there was one major negative impression of this automobile which was firmly rooted in the minds of prospective buyers and effectively exploited by competitors' salesmen. An entire investigation was planned around the hypothesis that competitive selling organizations were causing a large number of lost sales by playing upon the one vulnerable point, namely, that the automobile in question had a very low resale value and would therefore be a poor investment. The result of confining the investigation to this one major hypothesis was an inexpensive and very useful analysis. Investigators, posing as prospects, shopped competitive dealers and observed the salesmen's answer to their statement that they were interested in the brand for which the survey was being made. The investigators later shopped the dealers selling the automobile in question, mentioned this objection, and observed the skill with which their salesmen were able to meet the argument. The investigation clearly showed the importance of the low resale value claim and the inability of the salesmen to meet the claim. It was a simple matter to provide dealers and salesmen with the necessary weapons to overcome this sales resistance.

Some of the very best marketing research work is done in those investigations which confine themselves to one hypothesis. In most studies, however, it usually is necessary and profitable to follow a group of hypotheses in one investigation. The following questions indicate the purposes set up for an investigation for a furniture polish manufacturer :

1. Do housewives desire a "high polish" on their furniture?
2. What have been the style trends in furniture finishes, and how do they affect the market for furniture polish?
3. What is the relative importance of different types of outlets, especially the syndicate stores?
4. What price should be placed on the product to produce the greatest net profit, taking into account sales volume in relation to cost of production?

Up to this point emphasis has been placed upon a high degree of selectivity in determining the specific purposes. It should also be recognized that if primary data are gathered in a marketing research, it is often found practical to obtain information on a large number of points which go beyond the specific purposes as originally conceived. Usable by-product information usually can be obtained in the field work at no additional cost. These by-products should not be overlooked, but the analyst must be careful that they are at no time allowed to divert attention from the fundamental problems. An example of such a by-product is found in a dentifrice investigation. In this study three major hypotheses were pursued. During the course of the investigation, it was found that information about the importance of the dentist in influencing the choice of brands could be obtained as a by-product. In view of the fact that there had been considerable doubt and confusion in the minds of the executives of the company as to the exact importance of dentists in this connection, this information was very helpful.

### Types and Sources of Data

After the purposes of the analysis have been clearly stated, the next step is to select the types and sources of data which will lead to a scientific solution of the hypotheses. The most important principle for the researcher to bear in mind at this stage is that there are many different types and sources of data which may be employed for any given hypothesis. If one is not fully aware of this principle, he is likely to proceed immediately to the collection of any sort of data which have an apparent bearing on the solution of the hypothesis.

There is no certainty that the data that are first thought of will prove to be the best for resolving the hypothesis. As a matter of fact, it is usually true that the most obvious forms of data are greatly inferior to others which may be obtained. Furthermore, it is frequently found that more than one kind of data is necessary to a complete solution of one hypothesis.

LIST OF SOME POSSIBLE TYPES AND SOURCES OF DATA		
Hypothesis—"The flavor of 'X' (a food product) should be changed so it will be sweeter."		
<i>Type</i>	<i>Source</i>	<i>Description of Data</i>
Survey	Consumers	<p>Statements of housewives using the product as to whether it should be sweeter.</p> <p>Statements of children using the product as to whether it should be sweeter.</p> <p>Statements of persons who formerly used the product as to why they discontinued its use.</p> <p>Survey of brands used, data to be classified according to "sweetness."</p> <p>Make up sweeter samples, give to consumers with samples of product now on market, and ask which they prefer.</p>
	Dealers	<p>Ask for sales ranking of brands; classify data according to sweetness.</p> <p>Ask why people buy leading brands.</p>
	Salesmen	Ask why product does not sell better.
	Domestic Science Teachers	Ask how product could be improved.
Observational	Consumers	<p>Pantry inventory of brands.</p> <p>Offer samples of product with varying degrees of sweetness, observe which is eaten in greatest quantity.</p>
	Dealers	Obtain sales records by brands.
	Company Records	If firm manufactures wide variety of similar products classify sales volume of similar products, according to sweetness.
Experimental	Dealer Sales Records	Test sales campaign on sweeter product in selected markets.

Figure 22. Types and Sources of Data for a Marketing Research

The figure illustrates the relationship between types and sources, and the wide variety of data open to the researcher. The reader can undoubtedly think of additional kinds of data which might be employed for the hypothesis.



Practically all the data with which the market researcher works are inductive. But these data may be classified into three major types: survey, observational, and experimental. The possibilities of using different variations of each of these three types of data should be thoroughly explored. After one has exhausted the possibilities of using the survey method, for example, he may find that he can devise a procedure for using the observational or experimental methods which will yield better results.

**Sources of Marketing Data.**—The sources from which marketing data may be obtained are so varied and complex that it is impossible to catalog all of them. In general, however, most of the sources fall into the four following classifications, the first three listed being primary sources and the fourth a secondary source.

1. **CONSUMERS AND BUYERS.**—In the majority of marketing researches, data are obtained from buyers or users of a commodity. The distinction between the buyers and the users of the product is an important one to bear in mind in planning the analysis. Thus, in the case of many products consumed within the home, the housewife is usually the purchasing agent for the family. It will be found, however, that for many products the user, rather than the buyer, is the more important. Deciding the extent to which the use of a product is separated from its purchase is, therefore, an important phase of determining the exact source which should be employed in the analysis.

In the case of industrial products, it is especially necessary to give careful consideration to the exact individuals who should be interviewed because for most industrial products there are a number of persons who influence the decision to buy. In addition to the purchasing agent, one finds that top-ranking executives frequently exercise a controlling influence. On the other hand, maintenance men and factory workers may prove to have an important influence on the buying policy and selection of equipment or materials, and sometimes represent an unusually valuable source of information in a marketing research for an industrial product.

2. **DEALERS.**—Dealers are a second important source of data for marketing research. A decision must be reached as to whether to include both wholesale and retail calls in the major analysis. Furthermore, there are special groups engaged in the distribution of certain products whom it may be wise to include. It may be found,

for example, that data from chain-store managers or from owners of small delicatessens will have particular value for a specific research.

3. **COMPANY RECORDS.**—A third major source of data is the internal records of the business. In the situation analysis these records are scanned and manipulated to a certain extent. In planning the analysis, it may be found that the solution to a major problem can be made from an intensive analysis of sales data which are already in the files of the company. If a hypothesis relating to the problem of determining the number of salesmen to be employed in different territories is used, an analysis of the performance of individual salesmen under varying conditions is a source of data which should obviously be included. An intensive analysis of advertising records in the light of a special hypothesis is another example of the use of internal records.

4. **DATA FROM PUBLISHED RECORDS.**—This fourth general source of data is from published records. An intensive analysis of facts already available through the U. S. Census, for example, may provide the best possible source for solving a major hypothesis in a study. With the development of comprehensive statistics on marketing operations through such sources as the Census of Business, secondary data are becoming increasingly important.

**Sources of Secondary Data.**—The sources from which a marketing researcher may gather secondary data for his use are almost innumerable. A complete classification of even the more important sources of secondary data is not necessary for the purposes of this discussion because it would involve too much detail for its general value, and the reader can readily obtain rather complete lists. These comprehensive lists may be used to insure against overlooking possible sources which may be valuable in any given marketing research. The purpose of this brief discussion is to familiarize the reader with the most important sources which he will be likely to turn to most frequently.

Confusion in obtaining secondary data can be avoided by keeping in mind clearly three separate methods of locating them. In the first place, there are several reference books and bibliographies which may be used to locate materials. Secondly, there are various firms and organizations which gather data to which one may turn as a source for the facts to be obtained. Thirdly, there are current publications which may be regarded as source books of generally useful marketing data.

## REFERENCE BOOKS AND BIBLIOGRAPHIES

1. *Monthly Catalog of U. S. Public Documents*. This bibliography lists all of the current printed material issued by the federal government. The publications are classified by the various departments. The monthly catalog and the publications which it lists are available from the Superintendent of Documents, Washington, D. C.

2. *Industrial Arts Index*. The *Industrial Arts Index* is a reference book, similar to the *Reader's Guide to Periodical Literature*, but covering technical periodicals in business, engineering, scientific, and industrial fields. It is a complete cumulative index of all the important magazine articles which appear on technical subjects in which the market researcher is interested. The index is arranged alphabetically, with many cross-references so that it is possible to obtain references by industries (such as food, clothing, or automobiles) as well as by subject classification (such as advertising, dealer-display, sales accounting, or salesmen).

3. *Marketing Research Sources*. This is a marketing research bibliography which is revised frequently. It is available from the U. S. Department of Commerce, Domestic Commerce Division (Bulletin No. 55).

4. *Public Affairs Information Service*. This is a general bibliography covering subjects in economics, commerce, and business. It also contains the names and addresses of trade associations.

5. *Government Statistics for Business Use*, written by P. M. Hauser and W. R. Leonard, published in 1946 by John Wiley & Sons, Inc., discusses the various types of statistical data available from sources in the federal government. It includes thirteen chapters written by government employees whose work is directly concerned with the development of certain types of statistics. The book also has a number of practical suggestions as to the uses, interpretations, and limitations of statistical information for business.

6. *A Current List of Selected Information Sources for Businessmen*. This is a regular feature of *Sales Management* magazine, prepared by Peter B. B. Andrews, former Industrial Economic Advisor, War Production Board. See *Sales Management*, April 15 and May 1, 1948.

## ORGANIZATIONS WHICH GATHER MARKETING DATA.—

1. *U. S. Department of Commerce*. Information supplied by the Department of Agriculture, the Bureau of Internal Revenue, or some other division of the federal government will often be found

exceedingly valuable for marketing research work. In general, however, the Department of Commerce is the most important source. This department has recently launched a comprehensive plan for the gathering of data for use in marketing research.

2. *State Governments.* The governments of all the states are continuously engaged in gathering data on many subjects which are of interest to the marketing researcher. These sources are especially valuable on specialized problems dealing with such subjects as agriculture and retailing. Information on material published by the states may be obtained from *Monthly Check List of State Publications*, U. S. Government Printing Office.

3. *Consumer Advertising Media.* Most magazines gather data which are of considerable value and are made available through their advertising departments. Newspapers are excellent sources for data which have been gathered in preparing the news of the day and for information on local markets.

4. *Business Publications.* The various magazines which make up the business press, particularly industrial publications and trade papers, are each specialists in their own particular fields. The best sources can be located by the lists of business magazines which are classified by industries. These will be found in current issues of *Standard Rate and Data Service*.

5. *Trade Associations.* Every important type of business has its trade association, which nearly always gathers statistics regarding the business as one of its primary functions. The trade association which is likely to have data of use in an analysis for any specific product may be located through *Selected Trade Associations of the U. S.*, published by the Department of Commerce. The names and addresses of associations, with the names of secretaries and managers, are currently brought up to date in a series of bulletins, each of which covers an individual industry. The National Retail Dry Goods Association is an important general source of merchandising data. The National Association of Manufacturers and the National Industrial Conference Board maintain extensive business libraries as a service to their members.

6. *Private Corporations.* Several of the larger corporations maintain libraries which will provide data for the public. Each of these libraries is, of course, specialized in its particular industry. Examples are the American Telephone and Telegraph Company, the Metropolitan Life Insurance Company, the Household Finance Corporation, and the Commonwealth Edison Company.

7. *Syndicated Research Data.* There are several specialized research organizations which compile current marketing data. A list of some of the most important syndicated sources, with an indication of the kind of data each provides, follows:

Source	Data
Industrial Surveys Company, New York	Continuous consumer panel data, showing the brands of various commodities being currently purchased
A. C. Nielsen Company, Chicago	Current sales in retail stores for various drug and grocery products; index of radio listening
C. B. Hooper Company, New York	Radio audience data
Daniel Starch, New York	Magazine and newspaper readership surveys
Media Records, Chicago Publishers Information Bureau, New York	Volume of magazine and newspaper advertising
International Business Machines Corporation, New York	
	Data processed on punched cards ready for tabulation according to user's specifications. New data from social security records now available
<i>National Research Forecast and Review</i> , Washington	A current letter service providing news and information of interest to marketing men. Published by Graphic Reports, Washington, D. C.

#### CURRENT PUBLICATIONS CONTAINING IMPORTANT MARKETING DATA.—

1. *Consumer Market Data Handbook.* This volume, published by the U. S. Department of Commerce, brings together in one handbook the most commonly used general statistics about markets. Data on such subjects as population, retail sales, number of wired homes, and income tax returns are provided for states, principal cities, and counties.

2. *Industrial Market Data.* These are booklets published by the U. S. Department of Commerce in the Industrial Marketing Series. They give basic facts on industrial markets, such as steel and paper.

3. *The Census of American Business.* This basic source provides data regarding all types of marketing organizations, including manufacturers' sales agencies, wholesalers, retailers, and service organizations such as banks and hotels. The first census study

of this type was the Census of Distribution made for 1929. The Census of American Business, which has been published more or less regularly beginning with 1933, is much more comprehensive than the original Census of Distribution.

4. *Decennial Census of the U. S.* This is the marketing researcher's chief data book. Its use as a source for general population statistics is obvious. However, one should not overlook the many special topics and subclassifications of data included in the census, such as housing and employment. This source is likely to be of greatest value to the market researcher who has a thorough knowledge of the wide ramifications of the complete census.

5. *America's Needs and Resources.* A comprehensive source book on vital statistical data of great use to marketing researchers. Various subjects are discussed, and considerable data presented. Edited by J. Frederic Dewhurst, it is published by the Twentieth Century Fund.

6. *State, Regional, and Local Market Indicators.* A compilation of data useful in quantitative analysis by the U. S. Department of Commerce.

7. *U. S. Census of Manufactures.* The Census of Manufactures provides data showing the volume of production for all major industries as well as many less important ones. Data are usually given both in dollars and in physical units. This source is particularly useful as a basis for estimating the total volume of commodities consumed and in making market forecasts.

8. *Commerce and Navigation in the United States.* This annual compendium reports the movement of all foreign commerce. Whenever data on imports or exports are required, this is a standard source.

9. *Survey of Current Business.* This is a monthly publication of the U. S. Department of Commerce, which currently reports the more important business series, such as production in various industries, retail trade, wages, and financial data. The *Supplement to the Survey of Current Business* summarizes data for longer periods of time.

10. *Federal Reserve Bulletin.* The Federal Reserve Board at Washington issues monthly a general bulletin which contains financial data and from time to time other information which is important from the point of view of general business conditions. Each of the nine Federal Reserve districts issues its own separate bulletin. The bulletins of the individual districts are likely to contain information on some subjects not covered by those of the central board. The bulletin of the Federal Reserve Bank of New York is especially

11. *Monthly Labor Review*. This is published by the United States Department of Labor, Bureau of Labor Statistics. It is especially valuable for price and cost of living data.

12. *Standard Statistics Service*. This is primarily a financial service. It is one of the most complete of the private statistical services. The service furnishes many data on general marketing conditions in addition to financial information.

**Appraising Secondary Data.**—While secondary data are frequently used in marketing research work, all are not useful or reliable. Unfortunately, they have the sanctity of print which leads many to accept them without reservation. One should be careful to scrutinize secondary data thoroughly to make sure that they are sufficiently accurate and useful for his purpose. The following standards are suggested for appraising the value of any information obtained from secondary sources:

1. The organization supplying the data.
2. The authority under which they are gathered.
3. Freedom from bias.
4. The extent to which the rules of fair sampling have been rigidly upheld (where it is possible to secure this information).
5. The nature of the units in which the data are expressed.
6. The accuracy of the data.
7. Pertinency to the problem at hand.

**THE ORGANIZATION.**—The first consideration in determining the value of secondary data which might be used in a marketing research is the character of the organization which has gathered them. All organizations exist for some specific purpose, and the data which these organizations gather are obtained for some purpose. Data provided by governmental sources, by that very fact, have a different value from those provided by a private enterprise. Some organizations are established primarily for the purpose of obtaining information. With others, the obtaining of data is purely secondary to some other major function. Data which are obtained for purely promotional purposes, for example, do not ordinarily have the same status as facts obtained by a public body set up for the purpose of providing information.

There are several other considerations. Some companies have been obtaining information for a long period of time, with the result that they have acquired valuable experience and have built an organization which is thoroughly adequate to the requirements for

obtaining the data. Some have individuals who are well-trained scientists to control the gathering of data; others have inadequate personnel. Some are very well financed, while others do not have adequate funds to gather the facts. Some organizations have established very careful standards of research. Others have no clearly recognized standards which they follow.

**THE AUTHORITY.**—Some organizations have the legal right to force information to be delivered to them on the basis of standards which are set out in a carefully prepared plan covering each detail. Examples are the data obtained by the Internal Revenue Department in connection with income tax returns, and by other law-enforcement agencies. Other organizations have no authority whatsoever to obtain data and, therefore, the information received may be wholly inadequate.

An example of the way in which authority influences the compiling of data is the contrast in reports of the sales of electric refrigerators by states with those of life insurance. In each case a trade association compiles the figures. The data on sales of life insurance are accurate. The reason is that the sales of life insurance are required by law to be reported by every company operating within the various states. In the case of electric refrigerators, many of the companies reporting to the trade association do not know where sales to consumers have been made and report rough estimates.

**FREEDOM FROM BIAS.**—The presence or lack of bias, prejudice, and personal interest in data is determined to a large extent by the nature of the organization furnishing the information. Ordinarily public bodies which gather data under legal authority will furnish information which is not influenced by deliberate bias, while organizations operating for profit are much more likely to bias the information.

This is not, however, a safe rule to follow in any individual situation. Data released by public bodies have been known to be very biased. It is, therefore, necessary to examine the data carefully in order to determine whether bias or self-interest has been injected into the facts.

**ADEQUACY OF THE SAMPLE.**—Since most secondary data are based upon statistical samples, it is just as important to check the samples taken for any secondary source as it is to plan carefully the sample for primary data. This is rather difficult because it is easy to hide deficiencies in the sampling process. The extent to which



provision has been made for taking cases in a random manner, especially where field surveys are involved, is very difficult to ascertain. One of the most important considerations to bear in mind in appraising the soundness of the sample used for secondary data is the various minor universes and subsamples which are included in the study. One should not be satisfied with general statements referring to the gross sample taken in this appraisal.

**UNITS IN WHICH THE DATA ARE EXPRESSED.**—A danger which is ever present in the use of secondary data is that one will not have a sufficiently accurate understanding of the exact definition employed in setting up the units for which data are provided. Even such apparently simple concepts as "house," "apartment," and "automobiles" are subject to varying definitions, and the data obtained will depend upon the definitions used in a given study. Composite units, such as "improved house," must be watched with especial care. These involve double definitions, and usually the added factor (such as "improved") is likely to be an important limitation which may be overlooked. Another example of a composite unit is "chain store." In order to understand exactly what is meant by data on chain stores, one must understand, first, the specific definition of the term "store," and second, the specific limitation of the term "chain." To some organizations the word "chain" is limited to five or more outlets under centralized ownership and management; to others, it means three or more outlets, while to still others it means two or more outlets.

One very important consideration in connection with the problem of the units in which the data are expressed is met wherever data are provided in frequency distributions. Data involving ages, for example, are nearly always reported for groups, such as "from 5 to 9 years of age." The classifications which are employed in such cases have usually been set up with some specific requirement in mind. Sometimes the classification will make the data useless for the purpose of a particular marketing research.

**ACCURACY.**—All secondary data to be employed should be carefully checked for accuracy. There are three ways in which this may be done most economically.

The first way is to examine carefully for inconsistencies. Errors in addition or in the results of other mathematical processes may appear with sufficient frequency to indicate that the data should not be employed. Tables should be complete; they should show all omissions and the number of "no answers." Sometimes facts, found in two separate parts of one source, are directly inconsistent.

A second way of checking the accuracy of the data is to inquire into the manner in which they were gathered, edited, and tabulated. By talking with some of the people who were involved in the various processes, it is often possible to appraise quickly their probable accuracy.

A third method of appraising the accuracy of data is to check a part of the summaries against material available from other sources which are known to be accurate. Most sources of secondary data include some facts which relate to subjects which have been previously covered by other sources. For example, a study of consumers' shopping habits may contain a summary table showing the percentage of consumers using different brands of the product. If this table is checked against other studies showing the status of these brands, and is found to be clearly out of line with information obtained from a more reliable source, this discovery would cast doubt on the accuracy of all the information obtained in the study.

**PERTINENCY TO THE PROBLEM.**—If a researcher has a clear conception of the purposes of the study he is making, he should be able to judge the relevancy of any secondary data to that problem. However, it is very easy to accept data which do not really provide a sound scientific basis for solution of the problem. The sanctity of print which these data usually possess and the fact that their use will avoid the necessity for investing time and effort in the gathering of primary data, create a tendency to accept the secondary data even though they are not exactly what is required. Consequently, the researcher should make a special point to challenge them on this score, making certain that they are sufficiently relevant to his problem to warrant their use.

One should also bear in mind that all secondary data, having been gathered by some other organization, have usually been obtained for some specific purpose which is different from the purposes of the research in which they may be used. A very important general statistical principle, frequently overlooked, is that the nature and value of data are determined largely by the specific purposes for which they have been obtained. To transfer them for use to another purpose, therefore, may be unscientific practice.

**How to Determine the Types and Sources of Data to Be Used.**—In order to avoid the possibility of overlooking valuable data and to insure that the analysis will obtain the best possible types, the following procedure is suggested.

1. LIST ALL POSSIBLE TYPES AND SOURCES OF DATA.—A list of data should be made separately for each hypothesis. The work will be expedited if the specific kinds of data considered are classified by the type and source each represents. If the various kinds of survey data are listed separately from possible observational data, and these in turn are listed separately from possible experimental data, their relative value will be more readily established. By further classifying these data in the list by the different sources represented (such as consumer and dealer), it will assist in insuring that no important sources are omitted. At the end of this step one has a list of many kinds of data, classified according to type and source.

For some hypotheses it will be found that a large number of types and sources of data may be employed. For others, a comparatively short list exhausts the possibilities. It is most important, however, to make every effort to prepare a rather complete list.

An example of a list of different types and sources of data to be used in a market analysis is shown in Figure 22. This list is far from complete, as the reader will notice if he attempts to think of other kinds of data which might be employed for the solution of the hypothesis mentioned. The example also clarifies the distinction between the different *types* and *sources* represented by each kind of data mentioned. Furthermore, it illustrates the value of classifying the data according to type and source as the list is prepared.

Study of the list will reveal almost immediately the infinite possibilities of employing different types and sources of data for a given hypothesis. It also shows how the results of the study may be affected by the choice made.

2. DETERMINE THE RELATIVE SCIENTIFIC VALUE OF EACH TYPE AND SOURCE.—To make a mental appraisal, from the purely scientific point of view, of the validity of each specific type of data which has been listed will be found helpful when the final selection is made. The different sources which may be used in a given analysis also have varying validity from the point of view of pure scientific procedure. For instance, in the example previously cited, the observational method might be applied to consumers by the pantry inventory, or to dealers by an audit of sales records. It is apparent that the choice of source, even for the same type of data, affects the scientific quality of the facts obtained.

3. DETERMINE THE PRACTICABILITY OF OBTAINING EACH TYPE OF DATA.—In the operation above, the researcher confines his thinking primarily to a purely scientific appraisal. Other things being

equal, experimental data are preferred to observational data, and the latter, in turn, to survey data. As a matter of practical expediency, however, it will be found frequently that it is impossible to employ experimental data in the case of a given hypothesis. By weighing the practical considerations of the cost and availability of the data against their theoretical scientific validity, one arrives at a conclusion as to which type should be used in a given analysis.

4. TEST ASSUMED RESULTS.—As a final step in determining the types and sources of data to be employed, it is suggested that the researcher imagine that the study has been completed on the basis of the types and sources of data which he is considering. By projecting his thought through the end of the data-gathering step to tabulation, analysis, and interpretation, he is in a position to challenge the value of any given kind of data. The time to raise a specific question as to whether the exact data to be obtained will work is at this stage in planning the investigation. It is very embarrassing to find after the data have been gathered that they are not pertinent to the solution of the hypothesis.

A helpful device in connection with the fourth step, testing assumed results, is to write on a piece of paper hypothetical percentages or other data which might conceivably be obtained as a result of employing one of the types and sources under consideration. For example, suppose that a researcher plans to obtain observational data on the number of dealers who stock a given commodity. He might at this point make the assumption that he will probably find that 70 per cent of the dealers carry the product in stock and that 30 per cent do not. Assuming for the moment that this is what will be discovered, the researcher then asks himself, "Would this resolve my hypothesis?" He then may make the assumption that he will find that only 40 per cent of the dealers carry the commodity in stock. He then asks the question again, and repeats the process covering various possibilities. This may demonstrate the inadequacy of the data to the solution of his problem, and suggest another type of data which should be obtained. For example, in the case cited, it might reveal that it would be necessary to determine the *amount* of stock which the individual dealers had on their shelves before the data could be meaningful.

5. PREPARE A STATEMENT OF THE EXACT DATA TO BE OBTAINED.—This is merely a summation of the end product of all the four preceding steps. Its value lies in making clear to the researcher the exact data which it is necessary to obtain in the remainder of

the analysis. With such a statement at hand, it becomes easier to prepare the forms which will be necessary, and it helps insure that the data will be properly gathered.

There is one consideration in connection with determining the types and sources of data which calls for special attention at this point. The researcher must at all times keep clearly in mind exactly what his data represent. If he has obtained reasons from the consumers interviewed as to why they use a particular product, he must keep clearly in mind that he has statements of consumers and nothing more or less. A common error is to fail to remember the exact nature of the data, and to assume that one has facts which directly establish the real motives for buying. This illustration is particularly pertinent because there is real reason to believe that conscious statements of consumers as to their reasons for buying commodities are, in fact, no indication of the real buying motives. By projecting one's thoughts to the end of the analysis, the exact nature and pertinence of the data which will be obtained becomes clear.

## CHAPTER 20

### PREPARATION OF THE FORMS FOR COLLECTING DATA

After the types and sources of data to be employed have been determined, it is necessary to develop standardized forms on which to record the data. The importance of exercising care in the development of these forms can scarcely be overemphasized. In the first place, the accuracy of the facts which are obtained depends to a large degree upon the care with which the forms on which they are to be recorded have been drawn. Secondly, since many people are usually involved in the furnishing and gathering of data, lack of clarity in the forms will lead to various interpretations and misunderstandings which will result in incorrect data. This is an important point for the researcher to bear in mind, because by the time he reaches this stage in his work he has become so thoroughly engrossed in his subject that many matters which are perfectly clear to him are not understood by his assistants. A third reason for the careful preparation of forms results from the need of having all the data as completely standardized as possible. This standardization not only aids in obtaining accurate data but also facilitates their handling in tabulation and analysis. Finally, one must be certain that the forms are complete so that all the information which is necessary for the analysis will be obtained.

Forms must be developed wherever primary data are gathered by the survey, observational, or experimental technique. If the survey method is employed, a questionnaire must be constructed. Because of the extrahuman element which is injected where this technique is used, the development of a questionnaire calls for the utmost care and skill.

**The Problem of Communication.**—The traditional approach to the gathering of marketing data is to design a questionnaire which will subject respondents to direct questioning and elicit answers which become the facts on which marketing conclusions are based. As has been pointed out in Chapter 15, this approach is inadequate because the research data obtained are limited to the survey type. Observational and experimental data may prove to be much more scien-

tific and useful in the solution of a marketing problem, for both of the latter methods escape the fundamental limitations which are inherent in any data which merely represent the conscious answers of one human being, given in response to questions asked by another.

In addition to this basic limitation of the survey method itself, the traditional questionnaire approach provides only a restricted means of obtaining field data, and it is necessary to take a much broader view of the whole process. The modern approach is to recognize that the problem of collecting data by interviews is essentially a *communication* problem. The researcher must therefore establish an effective means of *communication* between the collector of data and the respondent.

By examining the most essential single element in the process of data collecting, namely, the relationship between the investigator and the individual respondent, the significance of this new approach is made clear. In the traditional survey study, a series of questions is developed, committed to paper in the form of a questionnaire, and then reproduced in quantity. These questionnaires are then placed in the hands of field workers, with verbal or written explanations which seek to make the questions clear in the mind of the field investigator who is going to ask them. The interviewer then proceeds to question the respondent; sometimes the investigator makes various verbal changes in the hope of clarifying the questions or facilitating answers, often with the result of completely changing the meaning of the questions. The respondent then answers the questions, usually to the best of his or her ability. After the questionnaires are returned from the field, editors scrutinize the answers, making such changes as are indicated by their particular understanding of the meaning of the original questions and by the answers which have been recorded on the blanks. By the time the answers have worked themselves back through field investigator, supervisor, and editor, they may change character considerably; yet they become the basic raw material on which the results of the study are wholly dependent.

It is a truism accepted by all marketing researchers that no research result can be better than the original data on which it is based. Many safeguards have been developed to lessen the errors resulting from the inherent nature of the questionnaire process, such as specific rules for wording questions, as well as methods of instructing, supervising, and checking the field workers. However, valuable as these procedures may be, it is necessary in modern marketing re-

search to rise above the limitations of the traditional verbalized questionnaire, which by itself should now be regarded as an archaic method, and to take the much broader approach of regarding the whole process as a specific problem in communication. The problem also applies to the observational and experimental procedures, even though these methods eliminate the question-asking interview.

There are two principal reasons why the traditional verbalized questionnaire is inadequate: first, because of the problem of semantics in verbal communication; and second, because the questionnaire is limited to only one means of communication—the verbal.

The scope of this book does not make it possible even to summarize adequately the recent findings of students of semantics. However, the marketing researcher should make it a point to follow developments in this field closely, at least to a point where he fully recognizes the limitations of verbal communication. These limitations are particularly acute where the English language is employed, for one characteristic of this language is that most of our words have several meanings, and fuzzy definition is a constant source of difficulty to the marketing researcher. When the simplest of words is used by one person in an attempt to communicate with another, a meaning is often conveyed to the other person which may be quite different from what the speaker intended. For example, take words such as “dog” or “house,” then consider the added difficulties presented by abstract and technical words such as “preference” or “value” which are subject to various and vague meanings among marketing men themselves. Add to these purely semantic difficulties the various “middlemen” who stand between the researcher and his data and who influence the meanings of words—the supervisors, investigators, and editors—and you will see how semantics hinders the marketing research which relies on the traditional verbal questionnaire.

The second weakness of the traditional questionnaire approach is that it is limited to one form of communication. Actually ideas are communicated by various means, and sometimes the nonverbal methods are much more significant than language itself. All five senses—sight, hearing, smell, taste, and touch—come into play when human beings communicate ideas. In a given communication experience the impression received through each of the senses is a complex one. For example, in an oral interview, both respondent and interviewer hear distinctly or poorly, hear tone of voice, hear emphasis on one or another word. Furthermore, there is an interplay between the various senses which affects the transmission of ideas.



## A SURVEY OF BAKING PANS AND OTHER EQUIPMENT

This survey is to find out the number, size and shape of ALL the various BAKING (Pie, Cake, Bread, Roll and Cookie) PANS you have. To do this measuring the easiest and best way, we have found some simple steps which save time and really make this one of the most interesting surveys we have sent out.

First—Take ALL of the pans and dishes you use for baking out of the cupboard.

Second—Separate these pans and dishes into 9 groups—All your round pans with sloping sides

(larger across the top than at the bottom); the next group to be the round ones with straight sides

(same across the top as at the bottom); square ones with sloping sides

straight sides; then the rectangular ones (longer than they are wide) with sloping sides

and then the rectangular ones with straight sides; muffin pans

tube or angel food cake pans and cookie sheets

Then get out your measuring cups and spoons because on the back page we ask about these.

Third—Now you are ready to measure with the calipers

Start with the round sloping sided pans and measure the inside bottom diameter (distance from side to side across the center) first and record this measurement in the first space under the drawing, "Round Sloping Sided Pans", on next page. (In measuring all diameters it is well to move the points around a little to make sure you are measuring at the widest point.)

Then spread the points of the calipers so they just touch the INSIDE at the top of the pan and record this measurement in the space reading "Inside Top Diameter".

After recording the "Inside Top Diameter" lay a ruler or some other flat object across the top of pan and using the leg of the calipers that is marked off to be a ruler, measure the depth. (Record this measurement to the closest  $\frac{1}{4}$ " in the space marked "Inside DEPTH at center".) Then complete the line, filling in the other information asked for.

Now you are finished with this pan. Use the same procedure and measure the balance of your ROUND SLOPING pans, recording each measurement in the proper column and complete the line BEFORE starting the next pan.

Figure 23. Establishing Communication

Part of an instruction sheet used in connection with a study conducted by mail which shows the use of illustrations and physical devices, in addition to language, in order to establish as effective communication as possible between the researcher and the respondent. (Courtesy Gordon A. Hughes, General Mills, Inc.)

One cannot dissociate the experience of taste from the sights which accompany it.

In modern research practice, the data gathering is properly planned only when the total communication process is thoroughly explored and all possible means to make communication easy and accurate are developed. The questionnaire is regarded primarily as a form for recording information, even though it contains questions which are presented to the respondent by the interviewer. Some questions may be asked verbally, but if the broader view of communication is taken and methods are carefully tested, questions may be printed on cards which are handed to the interviewer rather than being asked orally. As many of the means of communication as possible are brought into play. As a result, the modern questionnaire goes far beyond a sheet of paper with a series of questions, and is likely to embrace visual exhibits, pictures, diagrams, samples of products, models, and various other physical elements which bring into the process all the senses which will aid in establishing effective communication. Only by employing a variety of devices can the researcher usually effect the recording of answers or other data which most accurately produce the desired information.

**Types of Questionnaires.**—Questionnaires used in marketing and distribution research may be broadly classified into three major types: (1) mail, (2) personal interview, and (3) telephone. One must decide in planning the investigation which of these types to use.

It is especially important to have a clear understanding of the characteristics peculiar to the mail questionnaire, on the one hand, and the personal interview questionnaire on the other. The difference between these forms is very real and may greatly affect the results of a study. Many researchers are inclined to favor one of these forms and use it extensively, assuming that it has a general basic superiority over the other. The truth is that each has its own peculiar advantages and disadvantages, and that the decision as to which type to employ should depend entirely upon the specific problems faced in a given analysis.

**Advantages of the Mail Questionnaire.**—The mail questionnaire has several advantages, of which three present the most important considerations in determining whether to use this type. The first advantage is that it *avoids the bias which results from the use of interviewers*. By automatically eliminating the personal element, which is introduced by the presence of the field investigator, it is sometimes possible to obtain much more accurate data. An example is

in certain types of readership studies. It has been found, for example, that many men and women will not admit, in the presence of an interviewer, that they read certain types of advertisements. Readership of health treatment, perfume, and men's store advertisements are cases in point.<sup>1</sup>

Even with very careful training and supervision, there is a constant tendency for the person conducting the interview to suggest answers in such a manner as to influence the respondent's answers. Another kind of bias is introduced by the tendency of field workers to select certain types of persons to include in the sample, a matter which is very difficult to control. Finally, with the natural turnover in personnel, there is always the danger that personal interviews will be poorly conducted, and that the interviewer will make mistakes in filling out the questionnaire, misunderstand the respondent, or even guess at answers. All these difficulties which arise from the presence of the interviewer are automatically eliminated by the use of the mail questionnaire.

A second advantage is the *wide distribution of interviews for a comparatively small expenditure*. A wider geographic coverage and a more complete distribution between cities of different size may be obtained easily. This is especially important if one has a limited appropriation and if there is a wide variation in marketing conditions affecting the product. With a limited amount of money to spend, it is often much better to employ a mail questionnaire and scatter the mailing than to use personal interviews which would be restricted to a relatively small number of localities. The mail questionnaire, too, has the advantage of obtaining a wider distribution of interviews even within cities. In large metropolitan cities, like Boston and New Orleans, it is difficult to spread the work of personal interviewers throughout the city. By the use of the mail questionnaire, however, with even a very small number of returns, it is possible to have a distribution which literally reaches into all sections of the market.

There is one important qualification to this second advantage of the mail questionnaire. It is difficult to obtain the mailing lists which are necessary to secure the broad coverage which has been mentioned. This advantage may, therefore, be more theoretical than real.

The fact that a wide territory may be covered economically by the mail questionnaire leads to an opportunity to employ this device

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<sup>1</sup> See Robert E. Baxter, "Use Both Mail-Type Questionnaire and Personal Interviews in Readership Research," *Printers' Ink*, May 7, 1943, pp. 24-82.

to particular advantage in the preliminary stages of industrial marketing research. The market for specialized industrial equipment, parts, or supplies may be limited to a relatively small number of potential users, but these prospects may be scattered all over the country. If care is exercised in the interpretation of mail replies and the sample which the returns represents, mail inquiry may prove to be a very useful tool in the early steps of industrial analysis.<sup>2</sup>

The third advantage claimed for the mail questionnaire is that *people may take more time and exercise greater care in filling out the questionnaire*. In personal interview work, unless the field force is carefully supervised, a proportion of the interviews are made hastily, sometimes through half-closed doors, and at a time when the respondent is distracted. On the other hand, the small percentage of people who actually return mail questionnaires usually take time to make out a careful return. If the mail questionnaire has been carefully prepared, especially with the thought of giving the respondent a real interest in it and making it easy to fill out accurately, it is possible to capitalize on this potential advantage.

There are several other advantages which may be obtained by the use of mail questionnaires. Franzen and Lazarsfeld mention the following:

- (a) If its questions aim at situations or decisions which concern the entire household, rather than one individual, then the mail questionnaire will offer the advantage of opportunity for consultation within the family; the personal interviewer rarely has a chance to obtain a "family interview."
- (b) More important, unavailability is sometimes a serious handicap for the personal interviewer. Farmers in remote areas, busy executives, inmates of hospitals and prisons, for example, are hard for the canvasser to contact but can be reached through the mail.
- (c) Third, its impersonality often prompts different shading to the replies than those obtained when the respondent is part of the psychological situation of being questioned by another person. For some types of questions the mail responses are probably more specifically candid.<sup>3</sup>

**Disadvantages of the Mail Questionnaire.**—There are many inherent weaknesses in the mail questionnaire. The first and most important weakness is the danger of *an invalid, biased sample*. The lists used for mailing often do not, in themselves, provide a representative sample. Furthermore, the small number of persons who return the questionnaires represent a highly selective group which

<sup>2</sup> For a discussion of three specific examples, see R. L. Edsall, "Unearthing and Measuring Markets for New Industrial Products," *Printers' Ink*, February 1, 1946, pp. 56 ff.

<sup>3</sup> Raymond Franzen and Paul F. Lazarsfeld, "Mail Questionnaire as a Research Problem," *Journal of Psychology*, 1945, p. 294.

is likely to distort the sample obtained. The percentage of replies received from mail questionnaires ranges from less than 2 per cent to as high as 40 per cent. A 10 per cent response is considered a satisfactory result and is generally accepted as "par" for this type of work. Probably the average returns from all mail questionnaires are not much over 7 per cent.

No matter how carefully one distributes the theoretical sample represented by the persons to whom the questionnaire is mailed, the sample represented by the actual returns will nearly always be distorted and not representative of the universe studied. In the first place, there will be a difference in the percentage of replies received from different localities. In some cities, less than 1 per cent of those who receive the mailing will reply, whereas in others, possibly 25 per cent will return the questionnaire. In the second place, certain types of people will reply much more readily than others to the mail questionnaire. In general, the middle-class groups are more likely to respond than the high income groups or the low income groups. Certain occupational groups will tend to answer much more than others. People living in smaller cities are more likely to respond than those living in larger cities. A comparatively large share of the total returns actually received may be from habitual "coupon clippers" and children. This type of sample distortion is particularly acute where a premium or other giveaway is used in an attempt to increase the percentage of returns. A third reason for the distortion of the sample is that the lists employed include only certain types of persons. In obtaining mailing lists reliance is usually placed upon such sources as telephone directories, magazine subscription lists, lists of product owners or users, and membership lists of organizations. The use of such lists clearly affects the sample obtained in the study. Finally, the response from users of the product involved will be much greater than from nonusers. All these considerations indicate the first fundamental weakness of the mail questionnaire—a distorted sample.

The fact that a questionnaire survey produces a very high rate of return is no guard against sample distortion. For example, in the Broadcast Measurement Bureau survey 43.0 per cent replied to the questionnaire. However, the variations in return by states ranged considerably as shown in the table at the top of page 417.

These data by states merely illustrate one of the factors which cause different types of people to return questionnaires at different rates. Within each state there were undoubtedly many factors operating to produce still further variations.

State	Percentage of Responses
Wisconsin.....	55.0
Iowa.....	54.0
Minnesota.....	53.4
Maine.....	49.2
Alabama.....	31.5
South Carolina.....	30.8
Florida.....	30.5

Bias resulting from sample distortion in mail questionnaires has been measured in a number of research studies. One of the first was made by the Procter and Gamble Company. This study showed that 92 per cent of the respondents to a mail questionnaire were users of the product with which the survey was concerned while only 40 per cent of those who did not reply to the questionnaire were users.

A recent study by Franzen and Lazarsfeld was made for *Time* magazine, which relies on mail questionnaires very extensively in its promotional and other research. In this study 3,000 subscribers of *Time*, taken consecutively from the *Fa* galleys, were used as subjects. These names were divided into three random subgroups of 1,000 each. Each subgroup was again divided in half, and one of these groups of 500 received a different questionnaire from the other half. The questionnaires to the first group dealt with ownership of material goods, readership, and opinions on intangible propositions. Those to the second subgroups dealt with classification data.

After the mail questionnaires had been returned, personal interviews were conducted on all subjects included in both mail questionnaires with 1,387 of the original list of 3,000. The completed questionnaires obtained by personal interview were divided into 505 from persons who had replied to the mail questionnaire, and 882 from mail nonrepliers.

Franzen and Lazarsfeld concluded from this experiment that mail questionnaires can produce valid samples of comparatively homogeneous groups. It should be noted, however, that this conclusion was limited to upper income groups, and is therefore considerably qualified.<sup>4</sup>

Politz and Brumach conducted tests of mail bias for the Broadcast Measurement Bureau. Their conclusions were that persons on

<sup>4</sup> Franzen and Lazarsfeld, *op. cit.* For a further exposition of these studies, see David Wallace, "Mail Questionnaires Can Produce Good Samples of Homogeneous Groups," *Journal of Marketing*, July, 1947, pp. 53-60.

the mailing list generally possessed characteristics of a higher income group than the control sample, which was selected at random. An even greater bias in this respect was discovered when only those who answered the mail questionnaire were compared with the control sample.<sup>5</sup>

Brooks made a study in the New York market, which is a type of area in which mail sample bias would be relatively high. Lists of registered voters were employed, and classification data of the sample obtained by mail were compared with 1940 Census figures. While some differences might be accounted for by differences between census data and voting lists, Brooks concluded that the sample distortion was much greater than could possibly be accounted for on this basis, and called attention to the different responses received from the different boroughs. He found that the respondent sample was substantially biased with respect to age, income, and education.<sup>6</sup>

Recently, there has been a considerable increase of interest in mail questionnaires, and a continuous controversy rages over their validity. There can be no doubt that every mail questionnaire study is open to a real challenge so far as biased sampling is concerned. Therefore, when, for various reasons, it has been decided that the mail questionnaire technique is most appropriate in a given situation, every effort to control sampling bias should be made.<sup>7</sup>

A second disadvantage of the mail questionnaire is its potential *high cost*. It is important to bear this in mind because most people assume that a mail questionnaire may be employed at a much lower cost than personal interviewers. This error is made because they think in terms of the cost per mailing rather than the cost per completed return. A relatively low expenditure for a mail survey is ten cents *per mailing*. If the survey obtains a 10 per cent return, the actual cost *per return* would be one dollar. This may be considerably in excess of the direct field cost of personal interview work.

There are many costs in connection with the use of the mail questionnaire, such as the cost of the mailing list and the mechanical costs of folding, stuffing, and addressing, which may be absorbed as part of the routine overhead of the company making the study. In such cases, the researcher may find it more expedient to use the mail questionnaire because of the more obvious out-of-pocket costs

<sup>5</sup> Alfred Politz and Richard Brumach, "Can an Advertiser Believe What Mail Surveys Tell Him?" *Printers' Ink*, June 20, 1947.

<sup>6</sup> Vernon Brooks, "Can You Trust Mail Questionnaires?" *Printers' Ink*, September 19, 1947.

<sup>7</sup> John A. Clausen and Robert N. Ford, "Controlling Bias in Mail Questionnaires," *Journal of the American Statistical Association*, December, 1947.

involved where personal interviewers are being employed. He must be very careful, however, to figure his costs on the mail questionnaire on the basis of actual usable returns received rather than the cost per questionnaire mailed.

A third disadvantage of the mail questionnaire is that it *must usually be very brief*. Where personal interviewers are employed, it is possible to obtain a relatively large amount of information in each individual interview. Where the mail questionnaire is employed, however, one must ordinarily limit the number of questions to be asked. The booklet form is an exception to this principle.

A fourth disadvantage of the mail questionnaire is that it *frequently takes more time to plan and execute* than to employ personal interviews. Researchers are likely to underestimate the length of time required for the compilation of mailing lists, for addressing the mailing, and for the people to receive the questionnaires, fill them out, and return them through the mails. If a firm is located in the eastern part of the country, a week may elapse between the mailing of the questionnaires and the first returns from the West Coast. In general it will usually be found that at least three weeks are required for gathering data by this method. By contrast, when an organization is available, it is possible to obtain field data by the personal interview method in less than a week, even where a large number of calls must be made.

The fifth disadvantage of the mail questionnaire is that it *cannot readily obtain certain types of information*. Skillful interviewers can obtain facts in personal interviews which consumers cannot report accurately by mail. Subjects requiring extensive discussion are handled better by personal interviews. Questions such as, "What make of radio will you buy next?" and "Why did you buy this brand of shoes?" will be answered largely by "Don't know," or vague generalities in mail questionnaires. Whenever a series of questions must be asked in a special order, because of the particular conditions of the individual interview, an interviewer must be present to direct the interview. Many questions involve careful explanation of the meaning of terms or must be asked in different ways for different respondents. There are some kinds of information which consumers will not give without injecting a great amount of bias into their answers, such as age and economic status. The personal interviewer can also appraise the quality of the interview. Furthermore, interviewers may report their general observations when making the calls. In addition, they can report the "feel" of the interview—obtaining impressions and interpretations which cannot be secured



by cold, mechanical, predetermined questions. Only information directly requested is usually given by persons returning mail questionnaires.

**Mail Questionnaires and Personal Interviewing.**—The list below summarizes the more important advantages and disadvantages of the mail questionnaire:

#### MAIL QUESTIONNAIRE METHOD

##### *Advantages*

1. Avoids bias of personal interviewer.
2. Allows wide distribution of sample.
3. Respondents may take more care in providing information.

##### *Disadvantages*

1. Sample obtained is not representative of entire universe.
2. Potential high cost per return.
3. Usually must be very short.
4. Requires longer time to complete study.
5. Cannot obtain some types of information.

The advantages and disadvantages of the personal interview method of obtaining information are in large measure the opposite of those for the mail questionnaire. The following list summarizes them:

#### PERSONAL INTERVIEW METHOD

##### *Advantages*

1. Sample may be controlled for markets covered.
2. Better classification data.
3. Can ask more questions.
4. Field work may be completed quickly.
5. Can obtain information on subjects which cannot be covered in mail questionnaire.

##### *Disadvantages*

1. Personal bias of interviewer.
2. Costly to distribute sample over many markets.
3. Many of the interviews may be given hastily.

In handling mail questionnaires every effort is usually made to produce as high a return as possible, partly in the interest of reducing sample distortion and partly in the interest of economy. The factors governing the rate of return are chiefly the following:<sup>8</sup>

1. Selectivity of the mailing lists, with particular reference to common group interests, group morale, and the extent to which addresses are up to date.

<sup>8</sup> Walter Mitchell, Jr., "Factors Affecting the Rate of Return on Mailed Questionnaires," *Journal of the American Statistical Association*, December, 1939, pp. 683-692.

2. Timeliness of the subject, including novelty.
3. Prestige of the investigating agency.
4. Quality of salesmanship displayed in seeking information.
5. Degree of reluctance to reveal confidential information, related to calibre of men questioned, confidence in the research agency, and methods of identifying contributors.
6. Direct or indirect financial stake of contributors in the success of the survey.
7. Amount of work entailed in filling out the questionnaire.

In planning mail survey work, it should always be borne in mind that too great an effort to increase the number of returns will actually increase, rather than diminish, sample distortion. Use of too attractive a premium is an example.

**Telephone Interviewing.**—The use of the telephone as a means of obtaining field data has grown rapidly in the last few years. Its chief advantage lies in the fact that it is possible to obtain a large number of interviews quickly and at a relatively low cost. This is especially valuable in such investigations as radio-audience checks, in which it is important to obtain interviews at a particular time of day. A further advantage in the use of the telephone is its ability to spread the interviews within an individual city in a random fashion, obtaining calls in each section. The cost of such distribution would be prohibitive in personal interviews.

The disadvantages of the telephone interview are apparent. The chief one is that it is limited to telephone subscribers. Limiting an analysis to such a highly selective group is almost certain to distort the sample. In the second place, its use is restricted to obtaining a relatively small amount of information, since it is often very difficult to secure the cooperation of the person called. Finally, it is almost impossible to obtain vital classification data, such as the age, economic condition, or occupation of the person giving the information.

By carefully considering the advantages and disadvantages of the mail, personal, and telephone interview in the light of the specific problems encountered in an analysis, one can arrive at a sound decision as to which type to employ. There are times when it is desirable to combine the methods. Frequently, the mail questionnaire may be used in covering territories which cannot be included in personal interviews. The mail questionnaire or telephone may be used for checking on the accuracy of the work of the personal interviewers. Personal interviews are used frequently to test mail questionnaires.

The discussion of the comparative advantages and disadvantages of the various types of questionnaires points to many of the difficulties which constantly confront one both in the preparation of the forms and in the gathering of data. By keeping clearly in mind the advantages and disadvantages of the particular form which is to be used in the investigation, one can avoid many pitfalls in the construction of the questionnaires and their handling in data gathering.

**The Elements of the Questionnaire.**—Most questionnaires contain five specific elements. These are (1) the request for cooperation, (2) explanations, (3) sought data, (4) classification data, and (5) identification. Separation of these elements in the mind of the person developing the questionnaire is essential to their proper treatment.

**REQUEST FOR COOPERATION.**—This is one of the most important features of the mail questionnaire, and while it may not appear on each form in the personal interview, it must be developed as part of the questionnaire process for use by interviewers.

The most important factor determining the manner in which the request for cooperation should be handled is the amount of interest on the part of the respondent in the subject covered in the investigation. If the subject is one in which the persons reached by the survey are actively interested, there is no difficulty in obtaining cooperation. A questionnaire to traffic managers on traffic problems will immediately strike a responsive chord. A questionnaire to the same group on their personal habits in the matter of family budgets will find most of them cold to the subject. Because automobiles are a topic for frequent discussion, it is comparatively easy to interest people in a study of this product; a study on furniture polish, on the other hand, must create an interest in the subject.

It must also be recognized that there are groups of people who are particularly interested in certain subjects. The people engaged in any given vocation are naturally interested in subjects relating to their vocation. Housewives are interested in any important problem relating to the management of the household. There are also groups of people intensely interested in such subjects as cooperatives, politics, automobiles, and health movements.

If the persons to be reached by a survey are interested in the subject being studied, it is most effective simply to ask for their cooperation directly and briefly. If they do not have such interest,

it is necessary to arouse it by a clever appeal or to resort to one of the more drastic methods of obtaining cooperation.

There are five common methods of obtaining answers to mail questionnaires or personal interviews.<sup>9</sup> First, one may offer a premium or reward. Booklets giving recipes or other useful information are often found effective. The Customer Research Division of General Motors has used extensively booklets containing educational material on automobiles. Premiums are especially effective where children may be used as an entree, or where women or groups are involved. They are less expensive than cash rewards, for it is possible to offer items which appear to have high value at relatively low cost. The chief weakness of using premiums is their tendency to increase returns among certain groups, the "souvenir hunters." Sometimes it is necessary to pay cash for respondent cooperation. In one case an offer of merchandise of considerable value was unsuccessful, and the firm had to pay consumers a dollar for each interview. This was expensive, but it made a sufficient play on the self-interest of the individual to insure cooperation. Companies have used various extreme appeals to self-interest to obtain returns, such as contests.

Second, one may appeal to the instincts, pride, and vanity of the person being questioned. Some questions themselves appeal to the basic instincts, such as beginning the interview by asking about children, a device which is frequently resorted to in house-to-house selling. We may appeal to pride by saying that we want the opinions of leading authorities, by appointing people to "radio committees," and by other forms of flattery. Telling a woman that she has been singled out of her block for an interview is a play on her vanity. *Time* used a novel appeal to pride when it headed a questionnaire, "Do you own a horse?"

Third, one may use a "begging" approach. One of the most effective means of securing cooperation was employed when a researcher said in a letter that he was starting up in business and needed cooperation to avoid failure. The most coldhearted executive will usually give in to the young chap who tells him that he will lose his job if he doesn't obtain the interview. One interesting form was used where a letter was sent out over the name of the head of a large corporation, in which the executive began by saying he was "up against it on a problem and needed some help."

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<sup>9</sup> For a more detailed discussion of methods of inducing respondents to furnish information in reply to mailed questionnaires, see René Pepin, "Psychology of Pulling Replies," *Market Research*, July, 1936, pp. 19-21.

## ADVERTISING RESEARCH BUREAU

Room 409 955 Eighth Avenue

New York, N. Y.

Dear Reader:—

We have been asked by several magazines to conduct a survey among their readers — to see just who in the families read the magazine.

Your name has been given us as a subscriber to Cosmopolitan, and I can assure you that your answers to the simple questions on the attached card will be greatly appreciated, both by us and by the publishers of that magazine.

As you, of course, realize, it is no easy task to publish a magazine that appeals to more than 1,700,000 families. The tastes and desires of the readers must be very carefully considered.

Naturally, the first step is to find out exactly who the readers are — that is whether they are men or women, whether married or single, and whether they are above or below certain ages.

This card asks these questions. There is nothing personal in those questions of course and no one will call on you at any time. In fact, you do not have to sign your name.

So won't you help us out now by filling out the card? (I have had a sample card filled out to show you how it can be done. Of course, your family will be different, but you can see the general idea of the card and the information that it gives.)

It is very important that every question be filled out, and that you send the card back as soon as possible. Remember there is no postage to pay (we do that when the card comes back to us) — nothing to buy — no follow-up.

You will have the satisfaction of knowing that you have greatly helped the magazine, for which we are extremely grateful.

Your very truly,



ADVERTISING RESEARCH BUREAU

mgr/dh

Figure 24. Elements of

This example shows how the various elements of the questionnaire were handled in five basic elements, then to appraise

# SAMPLE

This is how one family would fill out the questions on the post card.

Your family will be different of course, but this suggestion will show you how each question can be answered.

Please send the card back to us as soon as possible.

Remember *you do not pay any postage*—we do that. *Thank you again.*

---

**1.** I am a reader of *Cosmopolitan* and my status in the home is.

☒ Wife      ☐ Husband      ☐ Daughter      ☐ Son  
☐ Other (Name)-----  
 If living alone, check here      ☐ Male      ☐ Female

**2.** My family is made up of the following people, (please list all members of your family in relationship to yourself, that is—Wife, Husband, Mother, Father, etc. except children under 13). If living alone, only fill in line opposite "myself".

	Approximate Ages					Regular Cosmopolitan Reader	Never Passe up if Cosmopolitan is read regularly	Occasional Cosmopolitan Reader
	under 17	17-24	24-34	34-44	over 44			
Myself	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Husband	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Daughter	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mother	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-----	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-----	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**3.** Number of children in family 2 Under 5 years 1  
 5-12 1

**4.** Please name the member of your family (Wife, Daughter, etc.) who keeps house i.e. (orders and prepares food, etc.)  
Wife (company)

**5.** We own our home ☐ Approx. valuation \$ \_\_\_\_\_  
 We rent our home ☒ Monthly rental \$ 30.00

*Tear off this card on the dotted lines*  
 Fill out each question, then drop in the nearest mailbox—do not stamp

---

**ONLY FIVE EASY QUESTIONS**  
*Check your answers here*  
**—THEN TEAR OFF AND MAIL**  
**WE PAY ALL POSTAGE**  
*and THANKS A GREAT DEAL*

---

**1.** I am a reader of *Cosmopolitan* and my status in the home is.

☐ Wife      ☐ Husband      ☐ Daughter      ☐ Son  
☐ Other (Name)-----  
 If living alone, check here      ☐ Male      ☐ Female

**2.** My family is made up of the following people, (please list all members of your family in relationship to yourself, that is—Wife, Husband, Mother, Father, etc. except children under 13). If living alone, only fill in line opposite "myself."

	Approximate Ages					Regular Cosmopolitan Reader	Never Passe up if Cosmopolitan is read regularly	Occasional Cosmopolitan Reader
	under 17	17-24	24-34	34-44	over 44			
Myself	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-----	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-----	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-----	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-----	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**3.** Number of children in family --- Under 5 years ---  
 5-12 ---

**4.** Please name the member of your family (Wife, Daughter, etc.) who keeps house i.e. (orders and prepares food, etc.)  
 \_\_\_\_\_

**5.** We own our home ☐ Approx. valuation \$ \_\_\_\_\_  
 We rent our home ☐ Monthly rental \$ \_\_\_\_\_

*Tear off this card on the dotted lines*  
 Fill out each question then drop in the nearest mailbox—do not stamp

## the Questionnaire

one survey conducted by mail. The reader will find it a useful exercise to identify the critically the handling of each one.

A mail questionnaire, using a double postcard, employed the following request for cooperation:

My boss bet me that I couldn't get the answers to some questions—from a group of people I have never seen. I bet him that you'd be kind enough to help me!

I have no desire to use your name—or sell you anything so you need not sign the attached card, just answer the questions on the card attached—please.

Amy Swanson

This approach raises interesting questions regarding the extent to which it would bias the sample of returns actually received.

Fourth, people at times pose as having some sort of census authority. By saying, "We are taking a census of . . ." at the opening of an interview one can often obtain high returns. The ethics of this method is open to question, but it is used because it does get results. Fancy titles on questionnaires, such as "American Survey Council" hints at an authority which some people will respect.

Fifth, one may appeal to interest in the study itself, promising copies of the results. This appeal is especially useful with executives. So many promises to send a copy of the report have been forgotten, however, that this method is less effective than it formerly was.

One should not produce a lengthy, labored approach. Letters should be brief. It is best to select the one wedge which will be most productive in the specific case, to state it clearly and directly, and do no more.

**EXPLANATIONS.**—Every questionnaire must have brief and simply worded, yet complete explanations to clear up all points of confusion in the mind of the person answering it. For the questionnaire used in personal interviews, these explanations are largely separate from the form itself, and are placed in rather detailed instructions to the interviewers. However, it is desirable to place as much explanatory matter as possible directly on the personal interview form, as a constant reminder. This is particularly true of directions for sequence or conditional questions and for definition of units in which data are to be taken. The explanatory matter should cover both the general instructions on how to conduct the interview and complete instructions regarding individual questions to insure uniform interpretation.

In the mail questionnaire, one is faced with the fact that the very simplest questions are open to misinterpretation, yet there are very

strict limits to the amount of explanatory material which can be embodied in the questionnaire itself. At best, perfectly uniform interpretation cannot be secured, but every precaution must be taken to reduce the errors from this source.

We can pass over as beyond the realm of control the question of the impossibility of completely accurate definition. The seemingly obvious concepts of "house," "cow," "automobile," will be interpreted differently by different persons. This should be borne in mind when writing the instructions, and exact, though arbitrary definitions should be inserted.

Completeness and simplicity in the wording of explanations are the major precepts. There are other rules. The proper place for instructions is right next to the specific questions to which they refer. Blanket instructions at the top of the questionnaire should be avoided. The use of pictures as a method of making explanations clear holds great possibilities. The General Motors Corporation has applied this technique extensively.

**SOUGHT DATA.**—The treatment of this element will be discussed more fully in the section on General Rules for Constructing Questionnaires.

**CLASSIFICATION DATA.**—By the term "classification data" is meant information regarding the respondent himself, or the respondent's family if that happens to be the unit under study. This information, such as age, sex, and income, is used in the analysis of the raw data obtained in the field survey, and is the element which makes the answers and other data meaningful.

The classification data to be used depend upon the nature, purpose, and scope of the individual survey. One of the common weaknesses of marketing researches is that scanty classification data are used when it would be much better to reduce the amount of direct information sought and to provide for more information about the respondent. Another weakness is to rely too heavily on the traditional and obvious classification data. Frequently a great deal of value is added to a consumer survey by obtaining particularly revealing types of information about respondents; a good deal of ingenuity can often be exercised in this regard. A specific problem is that of definition, particularly when one is seeking some new basis of classification.

The following are some of the types of classification data which are most generally used in marketing research.



# APPLICATION FOR PARTICIPANTS IN NATIONAL FAMILY OPINION ACTIVITIES

Name..... Please Print..... Street..... Zone.....

City..... County..... (1-3) State..... (4-5)

Population of your city: (Please check) (6) Are you: (Please check) (9)

..... Rural: ..... Single

..... 2500 to 5000 ..... Married

..... 5001 to 10,000 ..... Widowed

..... 10,001 to 25,000 ..... Divorced

..... 25,001 to 100,000 ..... Separated

..... 100,001 to 500,000

..... 500,001 to 1,000,000

..... Over 1,000,000

Highest grade in school completed: (Please check) (10-11) Day and Month of your Birth ..... Do you have a degree in Home Economics? (Please check) (13)

..... Yourself ..... Yes

..... Your Husband ..... No

..... Little or no formal schooling

..... Didn't complete 8th grade

..... 8th grade

..... Didn't complete High School

..... High School

..... Didn't Complete College

..... Complete College

Do you and/or your husband have: (Please check) (14)

..... A savings account

..... A checking account

..... Neither one

Husband's Occupation: (If not married, YOUR occupation.) Is your husband a veteran of: (Please check) (17)

..... Please be specific

..... World War I

..... World War II

..... Neither War

(15-16)

TOTAL number of children now living at home: .....Number (18) TOTAL number of all individuals living in your home: .....Number (19-20)

This figure shows the kind of classification data employed by one organization in connection with items shown in the illustration represent only a little over one-half of the data covered. These data obtained in an individual study.

How many children do you have in: (35-37)

.....	Grade School
.....	High School
.....	College

Under 1 year

5 thru 9 years

..... 15 thru 19 years

Over 25 years

100

**How many automobiles does your**

Year	Bo
------	----

Make of car: (4-10)	Mid.	18

Cadillac(2) .....

Chrysler (4) .....

De Soto (6).....|.....

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### Figure 25. Classification Data

*Age.* People of different ages respond very differently to most products. The consumption of milk, for example, varies greatly between different age levels. A beverage manufacturer found that his sales volume was not satisfactory because he was manufacturing a dark, heavy type, whereas the younger users preferred a light product. Age is so important an influence in the use of products that most consumer researchers study the subject on the basis of age groupings.

*Sex.* Analysis of the market on the basis of sex is standard practice for products involving both sexes. It will usually reveal an opportunity for market expansion by such devices as changing the package, the product, or the advertising and selling appeals.<sup>10</sup>

*Nationality or race.* The differences in living habits between members of different nationalities and races are rather obvious. In the sale of certain commodities, these differences may be very important.

*Economic status.* The types of commodities consumed by individuals vary greatly according to the relative income or socioeconomic status of those individuals. In order that marketing activities may be properly directed, it is important to analyze the market for a product by economic groups. This classification has been so effective in marketing research that there are many who make it the primary basis of nearly all analyses.

*Occupations.* Sometimes the key to an understanding of the market is found by breaking it down on the basis of different occupations. Some contend that the most essential differences in living habits which affect the sale of a product are to be found between different occupational groups—that a painter in Minnesota is more like a painter in Tennessee than he is like a schoolteacher in Minnesota. The segregation of the market into the “class” occupational groups as opposed to the “mass” occupational groups has been employed very successfully in consumer surveys.

*Geographic areas.* Because of wide differences in standards of living, customs, buying habits, and brand preferences, it is usually necessary to break down all facts learned in a consumer study on the basis of geographic sections.

*Population groups.* People who live in large metropolitan centers have different living habits from those who reside in smaller cities

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<sup>10</sup> For an interesting discussion of this factor, see R. S. Alexander, “Some Aspects of Sex Differences in Relation to Marketing,” *Journal of Marketing*, October, 1947, pp. 158–172.

and towns, and the latter, in turn, have different habits from those who live on farms. An analysis of the market on the basis of various city-size groups usually reveals conditions which point directly to important variations in marketing policy.

There are many other bases on which consumer researches may be analyzed if the classification data permit. Analyses on the basis of religious groups and educational groups, for example, have often proved productive. As society develops, there is a constant shifting in the types of social groups, which is significant from the point of view of marketing. One function of the marketing researcher is to keep abreast of these changes in order that any specific analysis may employ the classifications which are most revealing.

In surveys of dealers or industrial buyers, effective classification data are equally important. Type and size of establishment are always taken, and here, too, considerable ingenuity may be exercised in devising novel and revealing bases of classification.

**IDENTIFICATION.**—This element is much more important than some questionnaires indicate. In the case of personal interviews, the form should always provide for the name and address of the person being interviewed. Only in this manner is it possible to check the investigator's work. Spaces for identifying the person who is responsible for the interview and the date should also be included on the form. A good illustration of the handling of the identification element will be found in Figure 14, on page 222.

In mail questionnaires one usually does not ask for the name and address of the individual replying, because it is felt that this request will bias the results and keep many from answering. Whether asking for a person's name tends to reduce the number of replies or not is still an open question. One is likely to assume offhand that it will, yet people like to sign their names, and doing so makes them feel that they individually are part of the study, not just so many blanks. In one instance respondents were asked to sign their names and then indicate whether they were willing to have themselves quoted or mentioned in advertisements. The result was a return much higher than was anticipated.

Serial numbers, often used to identify the person replying, are necessary where one wishes to check in the replies. A definite place should be provided for tracing the questionnaire geographically. This information may be obtained from the postmark on the return envelope of a mail questionnaire and later transferred to the blank.

### General Rules for Constructing Questionnaires

The purpose of the discussion in this section is to state as briefly and clearly as possible the most fundamental rules for questionnaire construction. In a sense, many of the activities pursued up to this point in planning the analysis will help produce a questionnaire which is satisfactory from the technical point of view. For example, some authorities stress the principle that the questions asked must be relevant. This requirement will, of course, be automatically fulfilled if the researcher has carefully followed a sound procedure in the work up to this point. There are, however, ten basic rules which should be kept clearly in mind while writing the questionnaire.

**Rule 1.** *Questions should ask only for data which can be clearly remembered by respondents.*

This principle is stated first because it is one which is frequently overlooked and, if violated, may lead to very serious consequences. Not all persons engaged in marketing research have a genuine appreciation of the degree to which the memory of most people is limited, particularly as regards the kind of data which the analyst frequently desires. If the violation of this rule simply meant that one would not obtain answers from many of the respondents, the situation would not be particularly serious. However, most people who do not actually remember facts will guess. These guesses then appear in the final results as though they were facts properly reported, and may lead to false conclusions.

The following questions are likely to violate this first rule:

Where did you see this advertisement?

When did you begin using this brand?

The first question is an excellent illustration of the principle mentioned above, that people who do not remember will guess. In an investigation which asked this question about an advertisement which had appeared two months prior to the analysis, less than 5 per cent of the people interviewed replied, "I don't know." The advertisement in question was one of thousands which the consumers had seen and it was clearly impossible for many actually to recall the medium in which they had seen that specific advertisement. Department stores which have asked buyers, "Where did you see this product advertised?" have found that large numbers of customers will report newspapers in which the advertisement did not really appear.

In order to avoid violation of this first rule, one should follow two procedures. The first is to omit all questions which obviously will tax the memory of respondents; the second is to phrase all questions in such manner as to restrict the demands upon memory as much as possible. An example of the first procedure would be the exclusion of a question like the second one quoted above, "When did you begin using this brand?" It is obvious that people would not remember, and the question should not be asked. Similarly, one should ask the first question, "Where did you see this advertisement?" only within a very short time after its publication, and then only if it is clear that it is the type of advertisement which people would remember if they had seen it.

The following are examples of the use of the second procedure, restricting the time period:

What brand did you buy the last time?

What radio programs did you listen to last night?

The principle embodied in the two questions above is sometimes described as the "theory of the last purchase," although it is obviously applicable to a number of situations other than buying. This technique relies on a random distribution of replies, so that the resulting distribution reflects the total behavior pattern just as accurately as though the behavior pattern of individuals were completely known. For example, if a respondent replies that her last purchase was Tide soap, but that she generally uses Dreft and chanced to obtain Tide because of some unusual circumstance, it would be offset by another consumer who chanced to purchase Dreft, but usually used Tide.

It is important to bear in mind that the length of time intervening between the happening of an event and the attempt to remember it is not the principal factor in memory. It is erroneous to assume that one cannot obtain data regarding events which have occurred a considerable time before the study is made, or, on the other hand, that if the questions are asked shortly after the event occurred, people will necessarily remember it.

There are many laws of memory. The three most important principles are those of recency of the event, intensity of the stimulus, and degree of association.

The principle of the *intensity of the stimulus* means that if an event has impressed itself very vividly upon the consciousness of an individual, he will remember it clearly for a long time. The importance of keeping this principle in mind in planning a questionnaire

can be demonstrated easily by reflecting upon what one is able to remember himself. The first day at school may be distinctly remembered for as long as fifty years as a result of the vividness of the impression which it makes on individuals. Marriage, the arrival of the first child, one's first arrest, the day one first obtained a job, and the day he left a position, are examples of events which may remain in the memory for a long time. On the other hand, the purchase of one of the thousands of commodities which are constantly used and the observation of one of the many advertisements which one sees from day to day are very quickly forgotten.

The principle of the *degree of association* is that events which are closely associated with other well-remembered events can be readily recalled. Hundreds of foods served at the table may be quickly forgotten, but the menu of a meal served with distinguished visitors present may be long remembered. Likewise, people have very poor memories for the kinds of oil used in their automobile at any given time, except the day the engine broke down on account of lack of oil.

An example of the importance of both the intensity of the stimulus and the degree of association in determining the extent to which people remember can be demonstrated by the case of a market analysis for tennis gut. Among the most important considerations in this study were the frequency with which certain types of tennis players had their rackets restrung and the dealers from whom they obtained the restringing. In order to determine the limits of memory on these subjects, a questionnaire which provided spaces for the recording of individual restringings over a period of five years was devised. An illustration of the technique employed in the design of the questionnaire is reproduced in Figure 26.

At the time this questionnaire was devised for testing purposes, the project director assumed that he would be fortunate if he could obtain an accurate record for the two preceding years. He was surprised to discover that in this particular case, because of such factors as association with summer vacations, and the length of time devoted to determining whether the racket should be restrung and what type of stringing to purchase (which affected the intensity of the stimulus to memory), the vast majority of persons interviewed could report clearly for the five-year period.

The reader will notice that this questionnaire was deliberately designed to aid in recall, by the listing of the dates and by having the interviewers begin with the last event and work backward in time.

While a knowledge of the general laws of memory and experience in the phrasing of questions are of great value in developing questions so that they will meet the requirements of the first rule, one can be sure that difficulties caused by the inability of respondents to remember will be eliminated only if the questionnaire is carefully tested on this point. In connection with these tests, one must bear

Year	# New Rackets Bought	Price of New Rackets	# Restrung Jobs	Brand of String	Name and Address of Dealer Who Restrung Rackets
1948					
1947					
1946					
1945					
1944					

Figure 26. Obtaining Data on Individual Instances

Part of a questionnaire which illustrates the technique of obtaining data on individual instances to stimulate memory and to avoid generalizations.

in mind that people who do not remember will often guess. Thus, in making the test, it is necessary to make sure that guessing will be avoided.

**Rule 2.** *The data obtained should not involve generalizations.*

This rule requires that one should ask for reports of specific events rather than generalizations covering a number of individual events. The following questions violate this rule:

- (a) Do you use your broiler regularly?
- (b) How many tubes of Colgate's tooth paste do you sell a week?
- (c) What brand of gasoline do you use?
- (d) What percentage of these watches were purchased as gifts?
- (e) How often do salesmen call on you?

In the case of each of the above questions, it is necessary for the respondent first to remember individual events and then make a generalization. The question "What brand do you use?" is frequently asked in marketing research. Persons who use one brand exclusively, or almost exclusively, can give a fairly accurate answer.



For most products, however, there is a considerable amount of brand shifting, and people who "drift" from one brand to another have no basis on which to make an accurate generalization.

A still more extreme form of generalization is demanded in those questions which, in effect, call for the equivalent of a statistical average. With an accurate series of statistical data available, it is often very difficult for a statistician to determine the proper form to use in arriving at an average. Yet many analysts expect consumers to be able to report accurately the average price which they pay for a commodity. The calculation of a percentage requires some figuring, but people are frequently asked to state the percentage of their total sales which is represented by each brand, or the percentage of income expended for certain purposes. Studies of family budgets which ask people to report their expenditures for different items over a long period of time are further examples which involve faulty questionnaire construction.

In order to avoid violation of this general rule in questionnaire work, the approved procedure is to obtain data on individual events. The following questions ask for specific information which eliminates the necessity of generalization:

- (a) When did you last shop at Marshall Field's?
- (b) What brand of soap did you buy last?
- (c) Did you obtain a premium with this purchase?
- (d) What brand of oil do you now have in your car?

*Rule 3. The meaning of every question should be obvious to the less intelligent persons included in the survey.*

This rule requires that the questions should be stated clearly and directly. The language employed should be as simple as possible.

There are three ways in which questions commonly violate this rule. These are (1) by complicated statement of the questions; (2) by the use of terms with more than one meaning; and (3) by the use of technical words.

The following question is not clear because of its complicated statement:

How have you found the best way to get a man interested in this idea?

The respondent would have some difficulty in determining whether the investigator is attempting to find out how the best way was found, or which way was best.

An example of a question whose meaning is not clear because it employs words subject to different interpretations is:

What kind of soup do you serve?

The word "kind" is subject to many different interpretations. Some people would think it refers to the difference between canned and home-prepared soup; some would think of different varieties, as vegetable or chicken; some of cream soups or clear soups. It might refer to high-priced or expensive soups as opposed to inexpensive soups, or even hot and cold soups.

Another example is:

Do you use the product frequently, occasionally, or not at all?

The words "frequently," "occasionally," and similar terms have entirely different meanings to different people. Tests show, for example, that people using a commodity with similar frequency will report in all three classifications. A similar term which is almost without exact definition, is the word "important." To ask a person whether he regards a certain thing as "important" is almost worthless, because of the lack of clear understanding as to what this word means.

One of the most common errors leading to the inclusion of questions which are not understood is the use of technical terms. In planning the analysis, the researcher becomes thoroughly familiar with many technical terms which are employed in the business for which the study is being made. Examples of technical words which cause difficulty in questionnaires are "cabinet model," "calrod unit" (on electric stoves), and "markup." One technical term frequently used in questionnaires is "advertising medium." These words have a very clear meaning to advertising practitioners, but will be given varying interpretations by dealers and consumers. A further complicating cause is the fact that some technical terms have different meanings in different parts of the country.

The use of words which are misunderstood by respondents or which lead to an excessive amount of "no answers" because they are beyond their vocabulary is much too prevalent in questionnaire building. The following words are further examples: "staple groceries," "discriminate," "fabrics," "economist," "diversify."

As a check on the influence of words and the extent to which the meaning of questions is clear, word lists may be employed. The best known is E. L. Thorndike's list of 30,000 words found in children's literature, from which the most commonly used words may

be selected to increase understanding.<sup>11</sup> A number of vocabulary books may be found in any good library.

Three different devices may be employed to eliminate the possibility of violating this rule. These devices are rewording the question, definition, and illustration. The following is an example of a reworded question to avoid the use of a term which is not clear:

If you were buying a new automobile, how much extra would you pay to have safety glass in all windows?

This question was used instead of the question "How important is safety glass to you?"

An example of the use of definition follows:

What type of dentifrice do you use? (Tooth paste, tooth powder, or other kind.)

This indicates clearly the meaning of the word "type" and will obtain answers which should meet the requirements of the person building the questionnaire.

The use of simple illustrations to clarify technical terms and to make the meanings of words obvious is a very effective technique in questionnaire construction. The most technical subjects can usually be included in a questionnaire if proper illustrations are shown. Examples of the use of illustrations to make the meaning of questions obvious will be found in Figures 3 and 23.

#### Rule 4. *Eliminate leading questions.*

A leading question is one which is so worded that it suggests the answer. The most extreme examples of leading questions are found in law courts where some attorneys make a specialty of devising questions which will force a witness to answer as the lawyer desires. A classic example is, "Do you still beat your wife?" No matter whether the witness answers this question "yes" or "no" he incriminates himself. If he answers "no," he admits that he has beaten his wife; if he answers "yes," that he is still beating her.

In marketing research one does not encounter such obvious examples of leading questions. However, there are cases in which studies are made by persons whose self-interest causes them to put leading questions deliberately into their questionnaires. Such cases are easily detected and are both unscientific and unethical. Nevertheless, no matter how fair one wishes to be, questions will often

<sup>11</sup> Edward Lee Thorndike and Irving Lorge, *The Teacher's Word Book*, New York, Columbia University Press, 1944.

be phrased in a manner which suggests the answers. The fact that the suggestion is more subtle does not make the elimination of any possibility of leading or suggesting the answers less important.

The first type of question which suggests the answer is that which is so phrased that it directly leads to a favorable response. Examples of questions which clearly predetermine answers to a degree are the following:

Did you see this advertisement?

Tests show that people will answer "yes" in about three-quarters of the instances, regardless of whether they have actually seen it or not, while other data show that less than 20 per cent have actually seen the advertisement.

Do you use Ivory soap?

Brand names should never be included in questions of this type. The use of the words "Do you" is also leading, as the natural tendency of most people is to reply "yes."

A second form of leading question includes the use of words which do not admit exceptions or which suggest a "favorable" reply:

Do you always use Texaco gasoline?

The word "Texaco" suggests a favorable answer. However, the word "always" does not admit exceptions. Every respondent can think of instances in which he has used some other gasoline, regardless of how loyal he may be to the Texaco brand.

The third type of leading question is the check list. In order to facilitate answering questionnaires and to make for easy tabulation, it is a common technique to provide a series of answers to the question. The respondent merely checks in appropriate spaces to indicate his reply.

Which of the following magazines do you read regularly:

- ..... Saturday Evening Post
- ..... Ladies' Home Journal
- ..... Woman's Home Companion
- ..... American Magazine
- ..... Health Magazine
- ..... Liberty
- ..... Good Housekeeping
- ..... \_\_\_\_\_
- ..... \_\_\_\_\_

This type of question greatly stimulates the imagination and causes people to check many more replies than they would mention if they were just asked the general question "What magazines do you read regularly?" Magazines which are not specifically included in the list will not be mentioned, in spite of the fact that extra space is provided for their inclusion. A third error in this question is that the magazines placed first on the list will tend to receive favorable replies, whereas those placed at the end are put at a disadvantage. The bias which is introduced by the order in which the magazines are listed should be eliminated by rotating the order in different groups of questionnaires. The question as stated also violates Rule 2 in the use of the word "regularly."

In an experiment to determine the amount of bias produced by the use of a check list, the reported readership of publications was studied. This problem was made difficult because of the high-prestige value of certain publications and the low-prestige value of others. The test revealed that when respondents were interviewed and directly asked whether they read a particular low-prestige magazine, a larger proportion admitted readership than when the magazine was included in a check list with high-prestige magazines. The test also revealed that interviewing respondents about just one magazine produced data closely in line with circulation statistics.

A fourth type of leading question, which is most subtle in nature and must be carefully guarded against, is the identification of the questionnaire with a specific brand. Experienced researchers realize that persons responding to a questionnaire try to guess the specific brand for which the study is being made. Once the brand has been revealed, the respondent will tend to give answers favorable to that brand. The identity of the brand may be disclosed by constant repetition of the brand name in the questionnaire, although it is handled on individual questions in such a manner as not to disclose the fact that this is the brand for which the study is being made. The situation may be even more subtle, however, for some elements closely associated in the consumer's mind with an individual brand may disclose it. For example, if a questionnaire on coffee repeatedly refers to a specific radio program, many people will immediately recognize that the study is being made for a certain brand, and give replies favorable to that brand. Other ways of subtly revealing the identity of the brand are to keep referring to special features of the product or to advertising slogans.

The following questions, taken from a recent questionnaire, show how easy it is to violate this rule and produce biased results :

- (a) What is your favorite soft drink?
- (b) Have you tried 7-Up?
- (c) About how many times a month do you drink 7-Up?
- (d) How many in your family like 7-Up?
- (e) Check any of the following ways in which you have used 7-Up:

Refreshing drink \_\_\_\_\_

With fruit juice \_\_\_\_\_

With ice cream \_\_\_\_\_

Mixer for gin \_\_\_\_\_

Mixer for whiskey \_\_\_\_\_

For health \_\_\_\_\_

The reader will note that this questionnaire is loaded in many ways with leading questions which are bound to produce distorted or biased results.

A fifth form of leading question is the use of particular words which have high emotional content. Examples are "propaganda," "labor union," "fair," and "big business." All questions used should be carefully tested in various forms in order to determine the effect of different wordings of the same question to reveal possible word bias.

Questions which present only a choice between two answers also tend to produce biased results.

Another form in which the rule relating to leading questions may be violated subtly is in the injection of personalities into the questionnaire. If names of well-known manufacturers or radio stars appear on the questionnaire, answers to many questions may be conditioned by the personal feeling of the respondent toward the personality mentioned.

Certain questions also tend to produce interviewer bias, as well as bias on the part of respondents.<sup>12</sup> Those which can be answered "yes" or "no" are most free from this particular source of bias.

**Rule 5.** *Omit questions which are too intimate or which raise personal prejudices.*

There are many subjects which people regard as very intimate, and it is useless to ask questions relating to them. Questions relating to matters of personal health and morals are examples. There are other subjects on which information may be secured in surveys,

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<sup>12</sup> See Don Cahalan, Valerie Tamulonis, and Helen W. Verner, "Interviewer Bias Involved in Certain Types of Opinion Survey Questions," *International Journal of Opinion and Attitude Research*, March, 1947.

but where one must be careful that the questions are phrased to avoid personal bias and prejudice. The researcher must be clearly aware of the various customs, mores, or traditions which will affect the answer to questions. Racial and religious prejudices must always be avoided. Examples of embarrassing questions are the following:

Do you brush your teeth regularly?

What is your age?

How often do you drink liquor?

There are times when questions which directly encounter prejudices of the kind cited are asked in marketing research. This is permissible when the purpose of the analysis is to measure the extent of the prejudice. A question on the value of advertising will obtain many personal points of view. Such a question would obviously be worthless as a means of determining the value of advertising, but would be perfectly proper if the purpose of the analysis were to determine the degree of prejudice against advertising.

The marketing researcher should examine all questions carefully to be sure that none of them is so stated as to hurt the pride of the respondent. Gallup found that an apparently innocuous question, "Have you read 'Gone With the Wind'?" was such a question. When the direct question was asked, few people would admit they had not read the popular novel. When the question was changed to "Do you intend to read 'Gone With the Wind'?" the response was quite different. The second wording actually flattered people and produced reliable answers to the subject being investigated.

**THE INDIRECT APPROACH.**—If one wishes to learn about some matters which respondents regard as personal confidences or which would be incorrectly answered because of bias or prejudice, he may employ the indirect approach. By the indirect approach is meant asking one individual to provide information about another. This device is used by house-to-house canvassers, who make it a point to ask neighbors the names of persons upon whom they are about to call.

While many respondents will not correctly reveal their own rent, neighbors are often quite willing to furnish the required information, and questions about general rents in the neighborhood can lead to specific answers. Many individuals will even hesitate to reply accurately to a direct question as to whether they own or rent their homes. An indirect approach used to meet this situation asked the question, "Do you think rents in this neighborhood are too high?"

This question brought forth many answers which voluntarily disclosed whether people owned or rented. If the indirect approach is used, it will often remove the obstacle and produce the desired information, but it should be followed up with a direct question as a check.

Another example of the use of the indirect approach will be found in obtaining confidential business information. Dealers may not tell an investigator what their profit margins are, but they are usually quite willing to discuss their competitor's profit margins.

**Rule 6.** *The questionnaire should be limited to obtaining facts or opinions as much as possible.*

In Chapter 15 it was shown that in the use of the survey method one may make factual surveys, in which the person interviewed acts merely as a reporter; opinion surveys, or interpretive surveys, in which the person interviewed attempts to report on his motives. The discussion at that point emphasizes the fact that when people make a conscious attempt to determine the motives behind their actions, they are unable to report accurately. There are some psychologists who still believe in the value of introspection and who are at present doing work which is designed to make it possible to devise questionnaires through which people can report accurately on motives. At the present time, however, approved technique calls for the restriction of questionnaires to obtaining factual data wherever possible, unless opinions are deliberately sought.

It is not generally understood that motives usually are revealed adequately by the facts of behavior. Many people will go to great lengths in asking such questions as "Why do you use this brand?" in an effort to discover buying motives, when the knowledge of the brand which is used per se will often reveal just as much as the person questioned. This is true because the researcher already knows such facts as the basis on which the various brands are sold, the appeals used, and the prices. It follows that in most cases people use individual brands for the reasons reflected by an analysis of the product, its sales promotion, and advertising.

**Rule 7.** *The question should be as easy to answer as possible.*

This rule refers in part to the physical construction of the questionnaire. Adequate space for the answers and clear instructions to show just how the answers are to be made should be given. The questionnaire should not be too crowded. Its physical appearance should be attractive. Wherever possible, especially in mail question-



naires, the questions should be so worded that the respondent can indicate his answer by a simple check mark.

This rule has other general applications. For example, questions requiring long answers should be omitted or broken down into a series of questions, each of which can be answered quickly.

One violation of this rule, which is frequently met, is asking questions which involve ranking a large series of items in the order of their importance. People are often asked questions like the following:

Which of the following is most important? (Indicate order of importance by numbering 1, 2, 3, etc.)

- .....Price
- .....Quality
- .....Service
- .....Style
- .....Durability
- .....Economy
- .....Safety
- .....Trade-in value
- .....Dealer's reputation
- .....Time payments
- .....\_\_\_\_\_
- .....\_\_\_\_\_

The question is badly phrased because it is not clear to the average person as to just exactly what is wanted. Ranking questions, in general, are difficult questions to answer. Most people do not know which of a series of items is most important, and must spend a great deal of time attempting to make an intelligent guess. The list given is entirely too long. Most people will not take the time to answer such a question, or will make a superficial answer. Ranking questions should not involve more than three or four items. Finally, some terms involved in this question, such as the difference between "price" and "economy" will not be understood by most of the people making out the questionnaire, thus violating Rule 3.

**Rule 8.** *Questions containing more than one element should be eliminated.*

Frequently, people will ask questions about an activity which on the surface can be answered by one reply, but which actually involve two separate activities and, therefore, require two questions and two replies. The following are examples:

Why did you change to Lifebuoy soap?

This question really requires two answers, because in changing, two activities are involved. In the first place, there is a reason for discontinuing the use of the brand formerly used. The reason for adopting the use of the second brand is a separate activity.

Why do you use Lucky Strike cigarettes?

This question requires two answers because the use of a product almost invariably involves two elements—a quality of the product (like flavor), and an influence (like advertising).

The detection of multiple-element questions is sometimes rather difficult. The reader should note that this fault does not refer to the inclusion of individual words having more than one meaning, covered in Rule 3, but to the use of a question requiring an answer which reports on an activity involving more than one individual action. The project director must be careful, in testing his questionnaire, to guard against the inclusion of these multiple-element questions.

**Rule 9.** *All questions should provide for conditional answers.*

This rule is violated very frequently. The most common form of violation is illustrated by the following:

Which liquid has the better flavor?

Number 1 \_\_\_\_\_

Number 2 \_\_\_\_\_

This question should provide for a third type of answer, "Don't know," or "No choice."

It is a very common error to provide check spaces for answers which force the respondent to vote in the affirmative or negative. The answer to many questions is neither "yes" nor "no," but rather "maybe" or "perhaps" or "I don't know."

All questions seeking a "yes" or "no" answer or asking for any type of choice should provide for a "don't know" column. Where a check list is employed it is also necessary to provide for conditional answers. In such cases, one should always have one or more blank spaces to indicate answers which are not in the prepared list.

Provision should also be made for conditional answers because it will frequently be found that the extent to which they are given may be the most important single bit of evidence found as a result of the questionnaire study. For example, it is just as important to

know the percentage of people who are doubtful as to the comparative merits of two products as it is to know the percentage who are favorably and unfavorably impressed.

**Rule 10.** *The questions should be arranged in a proper sequence.*

This rule requires that the questions be asked in such an order that the flow of thought from the first to the last will follow the proper psychological pattern.

It is important to distinguish between what might be termed the psychological order and the logical order. By the "psychological order" is meant the sequence which will best fit the requirements of the persons responding to the questionnaire so that the best possible answers will be obtained. By the "logical order" is meant an arrangement which satisfies the requirements of the logical, orderly handling of the various items in the mind of the researcher. The distinction between the two orders is shown in textbooks. Some books are written with an arrangement of chapters which is determined by the psychological order in which the students can best learn the subject. This is the more modern technique. Many textbooks, unfortunately, are placed in a logical arrangement which satisfies the erudite thinking of the person who has written them.

This distinction is particularly important in research work because, unfortunately, most writers in this field have stressed the importance of having a logical flow of thought through the questionnaire. They forget that what may be a logical order to the researcher may be a very poor order to the persons filling out the questionnaire.

Beyond a few ground rules, one can only determine the proper order by testing the questions in various arrangements. One can, however, observe the following principles:

1. The first question asked should be the easiest one for the respondent to answer and one which will immediately excite interest.
2. The order of the questions should proceed from those most easily answered to those more difficult to answer.
3. The necessary transitions between questions should be provided constantly to stimulate interest and to prepare the respondent for the questions which immediately follow.
4. The sequence of questions should appear to the respondent to be logical and maintain a stream of thought throughout the interview.

## BAKING

1. Have you bought any bakery products in the last week? Yes\_\_\_\_\_ No\_\_\_\_\_
- Please write in the number of times in the last week you have bought any of the following bakery products:

Rolls\_\_\_\_\_ Muffins\_\_\_\_\_ Cake\_\_\_\_\_ Cookies\_\_\_\_\_ Pies\_\_\_\_\_ All other\_\_\_\_\_

2. Have you within the last two weeks baked any of the foods listed below?

Yes\_\_\_\_\_ No\_\_\_\_\_

If so, please write in what kind:

Yeast							All
bread	Rolls	Biscuits	Muffins	Cookies	Pies		other

What kind? \_\_\_\_\_

3. When did you last bake a cake?\_\_\_\_\_ What kind?\_\_\_\_\_ Was it for family consumption entirely?\_\_\_\_\_or for guests?\_\_\_\_\_or for a special occasion?\_\_\_\_\_If a special occasion, what?\_\_\_\_\_
4. How long ago did you bake a cake other than this one?\_\_\_\_\_ What kind was it?\_\_\_\_\_
5. What kind were the last two cakes before that?\_\_\_\_\_
6. Do you bake cakes most often for family use?\_\_\_\_\_ or for guests?\_\_\_\_\_ or for special occasions, such as weddings, birthdays, etc.?\_\_\_\_\_
7. At what time of year do you bake most often?\_\_\_\_\_
- Least often?\_\_\_\_\_
8. Do you do more or less baking than you did a year ago? More\_\_\_\_\_ Less\_\_\_\_\_ Same\_\_\_\_\_
9. Have you a regular baking day?\_\_\_\_\_ What day?\_\_\_\_\_
10. What kinds of flour are in your pantry now, and what do you bake with each? (Including quick mixes. Please give brand names.)
- |                                 |            |
|---------------------------------|------------|
| Brands of flour and quick mixes | What baked |
| _____                           | _____      |
| _____                           | _____      |
| _____                           | _____      |
| _____                           | _____      |
11. What brands of baking powder are in your pantry now?\_\_\_\_\_

Figure 27. A Well-Designed Consumer Questionnaire

Note the restriction of the survey method to matter which the respondent is qualified to answer and the general observance of many of the rules for questionnaire construction.

5. Questions of a personal nature, and those which might conceivably produce embarrassment, should be placed toward the latter part of the interview.

It is obvious that the opening question should not be theoretical, require much thought, or be dependent on previous questions. To open an interview with a question such as, "Which manufacturing firm do you consider outstanding in its labor relations policies?" would succeed only in baffling respondents. The first question should be one within the intimate experience of the respondent, which can be answered with very little thought, preferably a simple reporting. Questions such as, "Do you use \_\_\_\_\_?" or "What brand of \_\_\_\_\_ are you now using?" are typically good opening questions.

The conduct of a field interview is dependent on a stream of thought between two parties—the investigator and the respondent. The arrangement of the order of questions in their proper psychological sequence is largely a matter of getting this stream of thought properly started and then maintaining it so that there is as complete rapport as possible between the two individuals involved. A good interviewer contributes a great deal toward maintaining this stream of thought. However, it is vital to establish an order within the questionnaire itself which will help to maintain the stream of thought, for if the questionnaire does not possess this characteristic the ordinary interviewer will become hopelessly lost. If the respondent fails to understand the actual meaning of questions, his attention wanders, he gives mechanical and often incorrect answers, and the interview gradually deteriorates.

One should be particularly careful to avoid a sudden change of topic or to introduce unrelated questions without maintaining a proper stream of thought. The introduction of unrelated questions out of sequence will result in a high proportion of "no answers." Frequently questions are inserted in the interview purely to serve as transition devices. Sometimes it is better to have the investigator make a statement to provide a bridge as the subject is changed. In this case, it is important to print the instruction to the investigator directly on the form at the point at which the statement is to be made. This is usually done in the following form, using a bold type face which stands out in contrast to the type in which the question is set:

**Investigator: "Now I'd like to ask a few questions about where you buy \_\_\_\_\_."**

or :

Investigator: Show exhibits C and D, saying, "Here are two different kinds of \_\_\_\_\_. Please smell them and tell me if you can detect any difference in odor."

The proper order of a questionnaire can be determined only by pretesting the forms under actual field conditions. It is important that these pretests be conducted by two types of investigators: exceptionally well-qualified and experienced investigators, and average or poorer than average ones. The former may detect errors in the arrangement of questions during their field work and make suggestions for rearrangement. The latter will make the errors in interviewing which will be encountered in later field work. By observing the results of their interviews, the researcher can properly plan the order of the questions.

As indicated at the beginning of the discussion in this section, this list of ten rules does not begin to exhaust the many requirements for the construction of a sound questionnaire.<sup>18</sup> The literature on this problem is the most exhaustive found in the entire field of marketing research. As one specializes more and more, he finds an opportunity to dig more deeply into the subject. The ten rules discussed, however, summarize the most basic requirements for questionnaire construction.

The researcher should guard against many questionable theories and rules for questionnaire technique which are advanced from time to time. There is also great danger of making questionnaires entirely too complicated in an effort to satisfy some of the more theoretical requirements. The general rules of simplicity and good writing should never be violated.

Among the commonly repeated rules for questionnaire construction with which the author cannot agree is that the questionnaire should be as short as possible because increasing the length will tend to decrease the response. As a theoretical statement, of course, especially in mail questionnaires, one must accept this. However, in actual practice, the rule has little practical value and has been so overemphasized that it has assumed false proportions. Certainly brevity for its own sake is not a virtue in questionnaire construction, nor is a questionnaire necessarily good because it is short.

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<sup>18</sup> See M. S. Heidingsfield and A. B. Blankenship, *Market and Marketing Analysis*, New York, Henry Holt & Co., 1947, Ch. 7, and Ferdinand C. Wheeler, Ed., *The Technique of Marketing Research*, New York, McGraw-Hill Book Co., Inc., 1937, Chs. 1 and 4. See also the discussion on p. 191 ff.

The length of the questionnaire is determined by such a variety of factors that it is impossible to lay down any fixed rules. The interest of the respondent will vary so greatly that some questionnaires containing two questions will fail, whereas questionnaires containing over a hundred questions will be highly successful.<sup>14</sup> Furthermore, some questionnaires are made exceedingly interesting, while others are dry and forbidding. The proper length of a questionnaire can be determined only by testing it. In this way the interest of individuals in the subject covered, and other factors affecting the length which may be used will be determined.

The most important basic ground rules for questionnaire construction have been discussed at some length. Through experience in the drafting of questionnaires, the researcher learns how to apply these rules more or less automatically. In practice, especially in his early training, the actual application of these rules can best be made in a negative rather than a positive manner. In other words, one first draws up a questionnaire and then checks it against the rules to determine whether or not any of them have been violated. After a draft of the questionnaire has been prepared, the researcher should ask himself the following questions:

1. Do I ask for any information which people will not remember?
2. Do any of the questions ask for data which involve generalizations?
3. Is the meaning of this question obvious? (Try it on the office boy.)
4. Do any of these questions suggest the answers?
5. Will any of these questions stumble on personal bias or prejudice?
6. Do any of the questions ask for motives and attitudes? (If so, is this a proper exception to the general rule that questions should be limited to obtaining facts?)
7. How can I change any question to make it easier to answer?
8. Do I have any questions which have more than one element in them?
9. Do I provide for conditional answers in the case of every question?
10. Have I an arrangement of questions which follows the psychological flow of thought of the respondent?

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<sup>14</sup> Good examples of this principle are many of the questionnaires prepared by H. G. Weaver, of the General Motors Corporation. Some of these questionnaires are placed in booklets containing as many as twenty-four pages and obtaining information on nearly a hundred points.

## Physical Form of the Questionnaire

After the questions to be included in a questionnaire are developed and their order determined, it becomes necessary to make a layout of the questionnaire form itself. In making this layout and in producing the finished questionnaire, there are certain principles which must be carefully followed. The physical form of the questionnaire itself may be a great hindrance to the gathering of accurate data, may lead to errors or waste in editing, coding, and tabulation, and may also result in excessive costs. The following are the most important principles to consider in connection with the physical form of the finished questionnaire.

**1. Allow Adequate Space.**—One of the most common errors is to cramp the physical size of the questionnaire in an effort to reduce it to a single sheet of standard dimensions. It is much better to spread the questionnaire over two to four pages, and to provide ample space for filling in answers. It should be remembered that the interviewer must fill out the questionnaire under difficult writing conditions at best. Furthermore, if the form is cramped, there will be a tendency to abbreviate, to write in an illegible hand, and to neglect complete answers. When the questionnaires are later processed in editing, coding, and tabulation, failure to allow adequate space will lead to many errors and slow down the work. Allowing too little space for answers, particularly in questions designed to provide "free answers," is the main objection to the physical form which is voiced by interviewers. This principle also applies to mail questionnaires, since restricting the space for answering the questions is uninviting and will reduce the number of responses.

**2. Keep Size to a Minimum.**—On the other hand, too bulky a questionnaire is difficult for field and office workers to handle; therefore an effort should be made to keep the form to a minimum size and yet provide ample space for recording answers legibly and correctly.

**3. Provide for Convenience in Handling.**—The questionnaire should be so constructed physically that it is convenient for handling both in the field and in the office. Odd sizes and shapes should be avoided. Where the questionnaire extends over several pages, a folded form should be employed. A single fold will provide four pages; a double fold, which can be conveniently handled, can be designed to provide six pages of questions.



lumped together and the accuracy of the data may be completely distorted. The principle also requires that the time period be defined as clearly as possible. One should not use column headings as "first week," "second week," etc. The column should be headed by such designations as "week ending June 10." This is especially important where work is done in a number of locations because without the more specific data it is difficult to make proper comparisons.

The rule which requires that the form be so constructed that individual observations are recorded is a particularly important one. If

INVENTORY AND SALES CHECK									
Product _____			Date: Last check _____			This check _____			
Store _____			Address _____			Store # _____		Type _____	
City _____			State _____			Auditor _____			
Brand	Type	Size	Opening Stock	Additions to Stock	Present Stock				Sales
					Shelf	Store room	Display	Total	

Figure 28. Form for Sales Check, for Use in Observational or Experimental Research

one is making records of sales, for example, one should never use a form in which the field worker himself records the sales figures. In order to arrive at the sales of a store during a given period three individual observations must be made: (1) stocks at the beginning of each period, (2) purchases during the period, and (3) stocks at the end of the period. On the basis of these three individual observations one can accurately calculate sales. The computation of the sales, however, should never be left to the field worker. The importance of this principle will be seen immediately if one notices the frequency with which errors are made by field workers who attempt to calculate sales.

Another example is afforded in the case of stock checks. The field worker must determine the amount of stock on display on the counters, and then make a separate check of quantities on hand in the stockroom. If one merely provides a total column for stock on hand, he will not obtain as accurate results as he will if he provides separate columns in which to record the amount of stock on display on the shelves and the amount of stock held on reserve in the stockroom.

The many possible applications of these four rules for the preparation of forms for observational and experimental work cannot be illustrated in this book. As in the case of the preparation of questionnaires, these principles become most valuable if the researcher uses them as a basis on which to challenge the skill with which an individual form has been drawn. For example, bearing in mind the general principle that individual observations should be recorded separately, he may find that he has called for data which represent a combination of two or more separate observations. The researcher should then alter the form to provide for reporting separately each individual observation or record.

## CHAPTER 21

### PLANNING THE SAMPLE

It is obviously beyond the possibilities of any marketing research to gather data from the entire population which it studies. This is true whether the total number of cases means the 148,000,000 people who make up the domestic consuming market, the hundreds of thousands of retail outlets, or even the smaller number of cases involved where the study is limited to such groups as owners of high-priced automobiles or users of lithographic printing. The same principle holds for observational or experimental studies, which involve counting of sales or other items. From the vast numbers of cases which might theoretically be included in a research, a relatively small number must be selected for actual inclusion.

Furthermore, it is an obvious waste of money and effort to include 20,000 cases if 5,000 will suffice. In actual practice, comprehensive analyses have been made which involve from less than 1,000 to 5,000 cases, and they have been fully as scientific as though they had included a much larger share of the entire population.

In restricting the number of cases to be included in a marketing research, the analyst is confronted with one of the most important and most difficult of the many scientific problems which are encountered; namely, the problem of statistical sampling.

**The General Theory of Sampling.**—If you stopped 500 men at random, asking them what size shirt they wear, and then stopped another 500, asking the same question, you would find that the answers obtained from the second lot would be practically the same as those from the first. If you continued to ask thousands of men the same question you would find no significant difference in the results obtained from those for the first 500 or 1,000. It is, therefore, unnecessary to ask more than the first 500 or 1,000 to draw accurate conclusions about shirt sizes of all men of the kind interviewed.

The general truth of this principle is now commonly recognized by the public, and one may find examples of its use in many different

fields. For instance, in order to determine the butter-fat content of any given quantity of cream one merely stirs the cream and selects a very small quantity to test. To grade a carload of wheat, a probe is inserted into different parts of the carload, and on the basis of less than a peck of wheat the entire carload is accurately graded. To check the quality of production in a factory, one merely takes regular samples of current production, which show the quality of the total output very accurately.

The same general principles are employed in making marketing surveys, observational studies, and experiments.<sup>1</sup> In consumer surveys a relatively small number of consumers are included, because it is known that if they have been properly selected, what will be found out about those consumers is generally true for all consumers of the particular type included in the sample. Information obtained from 500 (sometimes fewer) carefully selected dealers gives accurate information about all dealers of the same kind. A marketing experiment conducted in a small number of carefully selected markets will show essentially the same results as would be obtained in other similar markets.

Because of the extensive recognition of the general principle of sampling, the use of incorrect samples is very prevalent today. Many people assume that merely because they have included a reasonable number of people in their study, they have an accurate sample of the total population. This is not necessarily true. The selection of cases to be included within the sample must be done very carefully, in the light of well-established scientific principles of sampling. The 1936 *Literary Digest* presidential poll is a classic example of how erroneous conclusions may result from violation of the principles of sound sampling.

The general law of sampling may be summarized as follows: *A moderately large number of items taken at random from a very large group are almost sure to have the characteristics of the larger group.*

The two basic principles of sampling may be seen in a careful scrutiny of the general law stated above. It does not say that if one merely takes a small number of cases, they will have the characteristics of the larger group. The reader will notice that the law specifies a *moderately large number* of cases. This is the first principle of sam-

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<sup>1</sup> For a number of illustrations of the application of the sampling procedure to marketing research, see Ralph Cassady, Jr., "Statistical Sampling Techniques and Marketing Research," *Journal of Marketing*, April, 1945, pp. 317-341. This excellent article discusses various uses of sampling in the marketing field.

pling, namely, that a sufficiently large number of cases must be included in the sample to insure statistical reliability. The first requirement of a sound sample for a marketing research is, therefore, that it be large enough to possess *reliability* (stability).

The reader will also notice that the definition contains the phrase *items taken at random*. This phrase points to the second principle of sound sampling, namely, that the different types or kinds of cases included in the sample must exist in the same proportion as they exist in the larger group. As a matter of pure theory, if the individual cases are chosen at random, the various kinds of items in the sample will exist in the same proportion in the sample as they do in the larger quantity. For example, in taking a small sample from a carload of wheat, if one probes properly, he will find the same proportion of big kernels, hard kernels, soft kernels, chaff, weed seeds, etc., in his sample as exists in the entire car of wheat. It is clear that in order to appraise the carload of wheat on the basis of the sample, it is absolutely essential that these different kinds be represented in the sample in the same proportion as in the entire carload. It is just as necessary in a marketing research that the various types or classes of persons represented in the total market be represented in the same proportion in the sample which is taken. *Proportionality* (representativeness) is therefore the second basic principle of sampling.

The relationship between *reliability* and *proportionality* has been stated as follows:

Stabilization (reliability) means that the sample is large enough to have overcome chance sampling errors. But stabilization has no intrinsic meaning in respect to representation, which is a function of the population elements included in the sample under test. An incorrectly designed or undesigned (supposedly random) sample may stabilize at, for example, 500 cases, but this, in itself, merely means that 500 cases are enough to represent that part of the population from which returns have come in. It means nothing in terms of the relevancy of that population to the universe which the sample was intended to represent.

Stabilization does not reflect the representative quality of a sample. Returns on a hair-tonic question could stabilize very early because only older men in a limited area have responded, but if the objective is to sample all hair-tonic users, then such a stabilized sample is, of course, entirely unrepresentative. In fact, the sooner a sample does stabilize the less likely it is to be representative of a complex social structure.<sup>2</sup>

<sup>2</sup> Committee on Marketing Research Techniques, "Design, Size and Validation of Sample for Market Research, *Journal of Marketing*, January, 1946, p. 226.

### Methods of Sampling<sup>3</sup>

There are four methods of sampling which are commonly employed in marketing research, as follows:

1. Opportunistic sampling.
2. Pure random sampling.
3. Area sampling.
4. Quota sampling.

**Opportunistic Sampling.**—Opportunistic sampling is based on taking data from the most accessible places, with some sort of general distribution to produce a variety of subjects. Interviews are taken with little regard as to whether the respondents selected are representative of the population being surveyed. Sales, or other data for observational or experimental research, are taken in a more or less haphazard manner, without careful sampling controls. This form is also referred to as “haphazard” or “accidental sampling,” and as these various terms imply, is not a sound sampling procedure.<sup>4</sup>

Surveys which instruct investigators to “obtain a variety of consumers” or to “get a fair distribution of various types” are employing the opportunistic procedure. Even where a list of locations is chosen, such as a department store, public building, or railroad terminal, in the hope of mixing the population sampled, there is no real control on the sampling. Another example is a survey in which investigators are given maps of markets and told to distribute their interviews among areas marked off on the map. Another common device is to designate sections of certain streets which in total are presumably representative of the population being studied.

Still a different type of opportunistic sampling is the pseudo-random sample. This procedure is used when a mass of data is obtained and items are selected indiscriminately, presumably without bias, but not according to a regular pattern. Taking names indiscriminately from a telephone book, but not according to a regular, pre-designed pattern, is an example of pseudo-random sampling.

The most extreme forms of opportunistic sampling are encountered when field workers are allowed to exercise their own judgment, without very specific sampling instructions and close supervision. Interviewing people in only one or two blocks, selecting stores in only one section of a city, and limiting the entire study to one or

<sup>3</sup> For a detailed list of references on sampling, see *Bibliography on Sampling Procedure*, revised, New York, Dun & Bradstreet, April, 1948.

<sup>4</sup> See Frank Stanton, “Problems of Sampling in Market Research,” *Journal of Consulting Psychology*, July–August, 1941, pp. 156 ff.

two cities are examples of opportunistic sampling in its worst form. Unfortunately, marketing research is not completely free from such practices.

One compromise sampling method is to make a reasonably fine grid of a local market in which interviews are to be made by drawing a series of horizontal and vertical lines over a map of the city and dividing it into approximately equal areas. After eliminating areas such as industrial sections in which no interviewing is to be done, a strictly equal distribution of interviews between the sections is required. Thus, if 200 interviews are to be made in the market and the grid provides for twenty areas, the field work should be strictly controlled so that ten interviews are completed in each section. By obtaining a broad distribution of interviews, the quality of the sample is greatly enhanced. If a sufficiently fine grid is employed, if clusters of samples are taken at random within *every* segment of the grid, and the population studied is evenly distributed over the area, the sample can be a very good one. However, all these requirements are seldom met. While the grid method has been advanced as a modification of area sampling, it is therefore actually little more than a refinement of opportunistic sampling.

These, and similar devices, are employed in an effort to secure some degree of validity. Actually, there is no excuse for employing opportunistic sampling, as more valid methods are available.

**Pure Random Sampling.**—The principle of pure random sampling is that every item in the universe has an equal chance of being selected in the sample. An example is to mix the names in a total universe—say, all residents in a given city—by some mechanical device, such as a revolving drum, then to select names for the sample while continuing to mix the remaining names after each selection.

For most marketing research work it is a practical impossibility to apply pure random sampling. As a matter of statistical theory, it is quite correct to say that a random sample, providing it includes a large enough number of cases, is sound. As a matter of practical fact, however, it is almost impossible to obtain a strictly random sample in marketing research. Obviously, people cannot be mixed up as cream can be stirred so that one can “dip out” the first 400 or 5,000 at hand. Also, because of the wide scatter of cases which would be selected by a purely random sample, some modification is necessary. One could scarcely be expected to search out one individual in the northern tip of Maine and then one in the southern tip of Texas, yet theoretically he might have to do so in a purely random national sample.

An actual mixing of cases is not necessary, for a random sample may sometimes be obtained by taking a regular, or systematic, sample. This is illustrated by the procedure of taking every tenth or twentieth name from a telephone directory. Such a list will provide a systematic sample of the persons included within the directory. However, it is clearly impossible to take a strictly systematic sample selecting every hundredth or thousandth case from major universes which often embrace millions of cases. If personal investigators are employed, it is impossible to include every city, village, and hamlet in the United States necessary to get a regular sample. Even within an individual city, no matter how carefully the plan has been laid out, it is impossible to obtain a regular sample. As a matter of theory, one might take the first family living in the southeast corner of every twentieth block. To attempt to cover a city like Des Moines or Chicago on this basis would obviously be absurd. Yet the theoretical principle of systematic sampling would require such completeness and regularity.

Pure random sampling is employed effectively in marketing research where the universe being sampled is not too large and where it is not too difficult to describe the individual units embraced within the universe. An example is the sampling of subscriber lists of magazines, lists of dealers, or names in telephone directories.

Where the individual units are identified, the most effective means of random sampling is to arrange them in sequence, then to select items according to random sampling numbers. The standard technique is to assign consecutive numbers to the individual units, then use a random sampling table of numbers, such as Tippet's, to identify the numbers which should be included in the sample. These tables give numbers which are genuinely randomized.<sup>5</sup>

**Area Sampling.**—Area sampling is one of the two methods of sampling most favored in marketing research work, and should therefore be understood by every qualified practitioner. Area sampling is a device whereby the areas in which people live are selected as sample units, and then a random sample is taken within each of the designated areas. There are four basic steps in the area sampling process:

1. Selection of primary areas.
2. Restriction of areas in primary units.
3. Selection of individual investigating units.
4. Selection of cases in investigating units.

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<sup>5</sup> L. H. C. Tippet, "Random Sampling Numbers," in *Tracts for Computers*, Cambridge, Cambridge University Press, 1927, reprinted 1937, or George W. Snedecor, *Statistical Methods*, Ames, Iowa, The Collegiate Press, Inc., 1946, pp. 10-13.





To illustrate, the country is first divided into small geographic units, usually counties or clusters of counties. These units are then grouped into classes or cells according to various characteristics such as geographic region, degree of industrialization, amount of urbanization, and median rental values. Each group of areas, or cell, is designed so that the individual units included are as homogeneous as possible. The county or counties used to represent each class or cell are usually obtained by a random selection process. Several sets of counties may be thus selected, and compared with each other and with data for the total United States to validate their representativeness as a group. For example, three sets of 100 counties each might be selected from the various groups, or cells, by random selection methods for such validation. The counties on one of these lists then become the primary sampling areas.

Each of these selected areas is again subdivided, and a further selection made by random methods, with the balance discarded, until small enough units are obtained to constitute the areas in which investigators are to work. In one area sample, for which the primary areas were 30 counties, 65 interviewing areas distributed among these 30 counties were selected in this second step of restriction of areas.

The third step is the selection, within these restricted areas, of the individual investigating units. These final area units must be distributed proportionately between rural and urban areas. The common final units for rural districts are townships, for urban areas they are census enumeration districts or city blocks.

After the final sampling units have been established, principles of random sampling are employed to select individual cases to be included in the sample from each unit in one of two manners. The first is to make a complete listing of the total population within the unit. This is called "block enumeration," and is usually done by designating street addresses. If there are two or more households at a given address, they are enumerated separately and given a proper code designation. Each household is then assigned a number in series, and some device, such as Tippet's tables, is employed to designate those which are to be interviewed or otherwise included in the final sample. A variant is to write the addresses of all households on small cards—one household to a card—thoroughly shuffle them, and either draw a sample in a regular order or draw clusters of cards.

A second method of selecting the sample within the final sampling unit in area sampling is to use a mechanical device which gives

the investigator specific instructions as to which families to interview. Beginning at a specified starting point within the area, this device instructs investigators to skip a pre-designated number of families and make certain turns as corners are reached, in such a manner that a presumably random sample will be obtained. Some researchers employ the simpler method of having investigators make regular samplings (every fifth household) from a given starting point within an area. Another variation of the mechanical device is to give interviewers a route control sheet with certain lines on the sheet designated as interview lines. The investigator then interviews in households on these marked lines.<sup>6</sup> These variations are all methods designed to produce automatic selection of items to be included in the sample.

Methods of area sampling have been developed largely by the Department of Agriculture and the Bureau of the Census as a means of obtaining information regarding population without the necessity of taking a complete census. Because of this extensive work and the evidences of its accuracy, the procedure is extensively applied in marketing research, usually with some compromises in order to make it practicable to the business firm. Since the findings of the Bureau of the Census regarding sampling areas are made available to marketing researchers, the high cost of this method is considerably reduced.

Area sampling has many obvious advantages. First, it applies principles of true randomness, and therefore has a high theoretical statistical validity.<sup>7</sup> As a matter of fact, many area samples are not entirely pure random samples; the selection of counties and areas within counties is often made by applying the principles of proportionality which are characteristic of quota sampling. In other steps strict randomness is dispensed with, either because the expense is too great or because a strictly random sample at this stage of the process is dangerous.

Secondly, it is possible to calculate mathematically the sampling errors of the various survey findings. This is not possible, where quota sampling is used, insofar as proportionality is concerned.

Thirdly, biases resulting from the selection of respondents by interviewers are eliminated, since all households to be interviewed

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<sup>6</sup> Alfred N. Watson, *Respondent Pre-Selection Within Sample Areas*, Philadelphia, Curtis Publishing Co., 1947.

<sup>7</sup> For a discussion of the merits of the area sampling method, see W. Edwards Deming, "Some Criteria for Judging the Quality of Surveys," *Journal of Marketing*, October, 1947, pp. 145-157. Deming uses terminologies in a special manner, so the article must be read carefully.

are selected by an automatic process. It should be noted, in qualification of this advantage, that biases due to the selection of individuals within the household unit are not eliminated, and often prove troublesome in area sampling when the household is not the final unit.

Fourthly, it is not necessary to base the distribution of interviews, when selecting interviewing areas or family units, on data that may be considerably out of date, or not accurately known.

Finally, it eliminates the necessity for weighting results, which is often necessary in quota sampling. This weighting is dangerous, and even when results from quota sampling are not weighted, some marginal units may be forced into the sample to agree with proportions established by reference to outside data.

The primary disadvantage of area sampling is its expense. It costs the government approximately \$3,000,000 to build a basic area sample. The expense of a commercial area sampling operation, even with this background material, is often not warranted by the increase in accuracy obtained. By way of illustration, in one plan for a national consumer survey it was found that the project would cost approximately \$20,000 if a quota sample were used, but over \$35,000 with a true area sample.

A second disadvantage is the difficulty of obtaining data according to literal specifications.<sup>8</sup> The development of block lists and the supervision necessary to insure randomness place a great burden on the research, and there is always the temptation to go through the motions of area sampling without living up to its literal requirements.

Third is the problem of nonresponses. In an area sampling operation it is necessary to make call-backs, as each individual selected for inclusion in the sample must be covered. The problem of nonresponses is present in quota sampling, but by the substitution of similar items the effort and expense of call-backs are avoided.

A fourth weakness is that while area sampling is theoretically a method for applying random sampling, in practice it is difficult to live up to the theory. Unfortunately, because of the reputation of government bureaus and the tremendous amount of work which has been done by them in the development of area sampling techniques, the term "area sampling" has assumed a certain glamour which has led many marketing research men who are not in a position to live up to its requirements to adopt this procedure. As a result a great deal of loose work, approaching opportunistic sampling, passes under the name of area sampling.

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<sup>8</sup> For a discussion of the difficulties in applying automatic selection, see Deming, *op. cit.*, pp. 155-156.

Finally, it must be remembered that area sampling, as generally practiced, is not truly random sampling. Many practitioners of marketing research employ certain area sampling techniques, but in the end adjust their samples for proportionality in the same manner as one does with quota sampling. In such instances the essential method used is not area sampling, but rather quota sampling, with emphasis on random selection within strata.

In summary, it may be said that area sampling is theoretically the most accurate sampling method open to the marketing researcher. Because of its high cost and difficulty of application, however, it is often impracticable. Quota sampling, therefore, is the method frequently used in marketing research.

**Quota Sampling.**—Quota sampling—often called stratified or proportional sampling—is based on the principle that if cases are selected according to a predetermined design, the sample chosen will be representative in certain known and measurable characteristics.<sup>9</sup> A sample design is established on the basis of selected controls, such as age, sex, and economic class. The total number of cases is spread to the various cells in this design, so that the number in each classification for each of the controls is in the same proportion to the total number of cases in the sample as it is to the total universe being sampled.

In quota sampling, proportionality is obtained by distributing the sample according to a limited number of controls. The first step is to select these controls. Let us assume that a distribution study is to be made among retail druggists in a limited territory, and the total sample calls for 100 drug stores. Sampling controls which might be employed are geographic location, size of store, and whether they are chain or independent outlets. Let us say that the Census of Business shows that 20 per cent of the druggists in the territory being studied are located in city A, 12 per cent in city B, and so on. Quota sampling would then require that 20 interviews be made in city A, 12 in city B, etc. The total of 100 interviews would be similarly distributed according to the other controls. The implicit assumption of the quota method is that if the sample is representative of the universe, or total population, with respect to a limited number of characteristics employed as controls, it will also be representative with respect to all the various items studied in the research. The selection and handling of controls in quota sampling is discussed in greater detail on pages 479 to 482.

<sup>9</sup> See George H. Brown, "A Comparison of Sampling Methods," *Journal of Marketing*, April, 1947, pp. 331-336.

To illustrate the process of quota sampling, the procedure employed by the Magazine Audience Group is described in some detail:

The measuring points are counties, thirty-five of which were chosen after all 3,000-odd counties had been studied statistically. In this preliminary study of all counties, it was established that almost all of the variations in circulation strength from county to county could be accounted for by four factors:

*Urbanization*, as indicated by the population of the biggest town in the county;

*Buying power*, as indicated by retail sales per family or per capita;

*Cultural or educational level*, as indicated by the per cent of adults who had more than grade school education;

*Housing or living standards*, as indicated by any one of several factors, of which the one chosen was per cent of homes with mechanical refrigeration.

Within each of the thirty-five counties it is of course necessary to obtain a sample which properly represents it. This requires careful study of the individual counties. The city, town and rural populations are studied so that assignment of interviews within a county can be proportionate to the county population's distribution by city-size, and also, when there is a choice of town in any size group, by industrial and trade characteristics of the towns. Proper sampling within single towns and townships necessitates further local analysis. From the Bureau of Census average 1940 rentals have been obtained by enumeration districts for purposes of dividing each area into economic sectors. On the basis of personal inspection these districts are further classified according to various social characteristics. Some are clearly industrial areas, others are commercial areas, new residential areas, old residential areas, institutional areas, and areas of racial concentration. Using these descriptions and population and rental figures (updated with the help of local building authorities, et al.) for the enumeration districts, it is possible to assign quotas by districts in such a way as to provide proportionate representation of these several characteristics.

Finally, it is, of course, necessary that the interviews made in each district be with people representative of it. Sex and age quotas based on local statistics are assigned for each town, and beyond this the interviewer is specifically required to select people typical of the neighborhood assigned to him.

In the analysis of the results each county is treated separately and independently just as it is in the sample design. When the questionnaires come in, each county is examined separately for quality of interviewing and of sampling, and the audience figures for each county are tabulated separately. When the tabulations for all counties are completed, they are analyzed to determine the correlation of audience percentages with circulation per 1000 people and with the housing, cultural and population density indices. The relationship thus established mathematically produces an equation which in

turn produces audience estimates for any geographic unit as small as a single county or as large as the U. S. total. The first step in validating is to compare these estimates for the thirty-five counties as sampled with the measurements obtained from the field in these counties. The second and definitive test of prediction is the use of half the counties in the sample to predict the audiences in the other half, again to compare the predicted and measured figures. Further cross checks become possible after this method has been used twice: the comparison of estimates of one sample with measurements in the other; and the focusing of both equations on a certain list of counties outside the sample to see how close the two predictions come to each other after allowing for circulation changes.<sup>10</sup>

The principle of proportionality requires that each significant class which exists in the universe must be represented in the sample in exactly the same proportion as it exists in the universe. For example, if 10 per cent of the families in the total market live in apartments and 90 per cent in other types of dwellings, 10 per cent of the sample should be composed of families living in apartments and 90 per cent of families living in other types of dwellings. Another example is a research which seeks to determine magazine-reading habits. If these habits vary by size of city, the proportion of people included in the sample from cities of different sizes should be the same as the proportions existing in the total population.

The advantages of quota sampling have been indicated in the discussion of the strengths and weaknesses of area sampling. Quota sampling is much less expensive and more practicable. It provides for deliberate control of the sample in a manner to insure adequate proportionality. It is the method most widely used by marketing research organizations, and empirical results prove that it is sufficiently accurate for most purposes. Samples can be built by individuals with a reasonable amount of statistical training. The validation of quota samples against known data provides a check on the actual distribution of field work. Finally, it lends itself to adjustment and correction after the field work is completed.

Those who oppose quota sampling argue that it has a number of weaknesses. The first is the arbitrary selection of stratifying controls. A second weakness is that the statistical information available on controls is often inadequate or out of date. Census data, for example, may be ten years old, and changes in population structure may be sufficiently great so that the quota control produces an actual bias in the sample. The range of control data available is

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<sup>10</sup> *Ninth Report of the Magazine Audience Group on the Continuing Study of Magazine Audiences*, Magazine Audience Group. November 15, 1947, pp. 41-43.

also quite limited. A third criticism is that the sample is nonrandom in character and that the field workers have too much freedom in selecting cases, with the consequence that the research results may become biased. Fourth, it is pointed out that with quota samples it is not possible to determine the magnitude of the sampling error for each of the subjects included in the study. A fifth argument is that faulty weights are often assigned to correct a supposedly biased quota sample. Finally, it is argued that the apparent simplicity of quota sampling, as opposed to area sampling, causes many individuals to use poorly designed samples and to apply the controls selected in a haphazard manner.

#### **Quota vs. Area Sampling: The Combination of Methods.—**

The two methods of sampling which have the highest degree of acceptance for marketing research are the area method and the quota method. A continuous controversy exists between the proponents of each of these two types, although it must be observed that the arguments advanced are largely those which justify whichever method a given researcher or organization uses. From the preceding discussion it is obvious that both methods have their advantages and shortcomings.

Recognizing the advantages and limitations of the two methods, a number of researchers combine features of both area and quota sampling. The Magazine Audience Group conducted exhaustive experiments with area sampling techniques in 1946, and reported that the actual differences between the results of area sampling and quota sampling for individual communities sampled were negligible.<sup>11</sup> Many researches have proved that both methods are sound if properly and carefully applied.<sup>12</sup>

#### **The Major and Minor Universe; Gross and Subsamples**

A sample is designed to reflect certain characteristics of a whole population. The word "population" is used here in the statistical sense to denote all individuals or items which belong to a precisely defined group.

Thus a "population" might include all people resident in the New England states, or it might be limited to males of twenty years of age or over who reside in the Pacific Coast states. If one were con-

<sup>11</sup> *Eighth Report of the Magazine Audience Group on the Continuing Study of Magazine Audiences*, Magazine Audience Group, August 15, 1946, pp. 17-19.

<sup>12</sup> See C. West Churchman, R. L. Ackoff and Murray Wax, Ed., *Measurement of Consumer Interest*, Philadelphia, University of Pennsylvania Press, 1947.



sidering, for example, a device for power-steering an automobile, the "population" to be considered might consist only of all buses and trucks with a capacity of more than one and a half tons. For still another problem "population" might refer only to homes wired for electricity in a certain area.

The population means, of course, the total number of persons or cases who make up that part of the market about which the researcher intends to draw conclusions. The statistical term for this large group is the "universe." In any given research, one is usually dealing with two distinct types of universes. The first type may be called the *major universe*. This is the total number of persons or cases represented in the market which is being analyzed. For example, if one is making a study in which he wishes to draw conclusions about automobile owners, his major universe is the total number of automobile owners in the United States. His first problem in sampling is, therefore, to select a proper number of automobile owners which will correctly represent the characteristics of all automobile owners. Suppose that he finds that 5,000 automobile owners are necessary for his sample. These 5,000 persons to be included in the survey then become the sample which represents his major universe. Within any given market or industrial field, there are many different kinds of major universes which may be included. If the analysis is restricted to owners of high-priced cars, for example, the major universe is no longer automobile owners, but owners of high-priced automobiles. The nature of the major universe, therefore, is not a vague general thing such as the "total market," but the specific persons or cases about which the analyst wishes to draw conclusions.

The term *minor universe* may be applied to the subgroupings or classifications of cases in the major universe about which the researcher wishes to draw independent conclusions. For example, in an automobile study, he may wish to draw separate conclusions regarding owners of Packard automobiles. Furthermore, he may wish to go so far as to draw conclusions regarding the owners of Packard automobiles which are less than one year old. It is clear that the last two groups mentioned are not nearly so extensive as the groups embraced by the major universe included in the analysis, namely, all automobile owners. In planning a sample, the researcher must keep clearly in mind that he is not usually dealing with only one "large group," or major universe. He is, as a matter of fact, dealing with many different universes, depending upon the number of different groups about which he intends to draw independent conclusions. This distinction is important because some researchers think

only in terms of the major universes with which they are dealing and then proceed to draw all sorts of conclusions regarding individual subdivisions, or minor universes, without realizing that the groups have shifted.

Just as the analyst must deal with both major and minor universes in almost any research, he must also deal with not one but several different samples. The *gross sample* is represented by the total number of interviews, observations, or cases which are included in the analysis. If one calls on 10,000 automobile owners, this group constitutes his gross sample. If one draws independent conclusions regarding the 250 Packard owners or the 60 owners of Packards less than a year old included in his gross sample, each of these groups automatically becomes a separate *subsample*.

The failure to recognize the distinction between the gross sample and the subsample is one of the most common unscientific practices in sampling today. In planning an investigation and in reporting on it later, most researchers confine their discussion to the gross sample which has been taken. Frequently they will go to great efforts to attempt to establish its validity. Then they will proceed to draw conclusions based upon subsamples on the assumption that since the gross sample is sound, the subsamples must be. This is not true, for each subsample must stand alone so far as its soundness is concerned.

If the reader will examine reports he will find that very often many more conclusions are drawn about subsamples than about the gross sample involved in the study. By a process of continually reducing the number of cases involved from the total gross sample to smaller and smaller subgroups, it is possible to find one's self in a ludicrous situation. The writer has in mind one study in which the gross sample, involving some 7,500 cases, was very carefully handled. However, in this study a sweeping conclusion was based upon a subsample of only twelve actual cases.

In view of the above discussion, it is very important to keep clearly in mind the general thought that, with possibly very few exceptions, there is no such thing as a single sample for a given marketing research. There are many different samples, each of which must be carefully planned if the work is to be scientific.

**Determining the Nature of the Major Universe.**—The general nature of the major universe is determined primarily by the types and sources of data to be employed in the investigation. There are, however, three important types of restrictions of the major universe which are frequently involved:

- (a) Geographic restrictions.
- (b) City-size restrictions.
- (c) Special type of case restrictions.

The geographic restrictions which may be placed upon a sample are obvious. Frequently a study is limited to special sections of the country because one is particularly interested in certain sections, or because relatively small areas represent a preponderant share of the total market. One may, therefore, deliberately restrict a sample to these sections. The northeastern part of the United States generally represents the most important volume market for most manufacturers; hence the sample may be definitely limited to this area. Furthermore, it is sometimes found that the operation of business is such that certain sections are treated as though they were independent marketing units. An example is the Pacific Coast. The important consideration in the geographic limitation of the gross sample is to keep clearly in mind the fact that the study is restricted to certain areas and not attempt to apply the conclusions about these areas to the total domestic market. A rather common practice is to restrict the major universe essentially to the populous northeastern section of the country with a small and thoroughly inadequate sample of the rest of the country in the hope that it will be possible to draw general conclusions for the entire market. The procedure is, of course, scientifically unsound and should be guarded against.

The city-size restriction is a very important one. To include every type of living condition from those in the very largest cities down to the small hamlets and farm areas in the major universe requires a very large sample. It is often desirable to deliberately restrict the scope of the analysis to cities, excluding the small-town and rural markets. If this is done, one should again be careful not to apply the conclusions to the whole domestic market.

In view of the practical value of limiting the total universe (and accordingly the gross sample) to cities, some researchers take a relatively small sample, perhaps a thousand cases, from the small-town and rural markets for purposes of comparison with the findings from the cities. If no significant differences appear in this small sample, they assume that the restriction of the gross sample to the city markets is sound. While it is not theoretically sound from the scientific point of view, it is a much better practice than to neglect completely the small-town and rural markets.

The restriction of the major universe to specific types of cases means the limitation of the analysis to certain classes, such as economic groups, age groups, and types of dealers. This results from

the previous decisions as to the sources of data to be obtained. The importance of restricting the major universe to the significant groups of persons or units of data is frequently overlooked. The result is that while 10,000 interviews may be included in a market survey, only 5,000 of the calls actually cover the types of persons who are pertinent to the purposes of the study. The result is that money has been wasted in including the extra 5,000 persons.

**Determining the Nature of the Minor Universes.**—This is a most important step in planning a sample. The various minor universes involved in the study indicate the requirements for the various subsamples which will be employed. If, for example, in the automobile study cited, the analyst expects to base independent conclusions upon such highly selective groups as owners of Packards less than a year old, these represent a specific minor universe about which he proposes to draw conclusions, and for which he must plan a specific sample possessing both reliability and proportionality. If, in a study for canned soup, a researcher is interested in drawing independent conclusions about housewives of certain age groups, certain income groups, those living in apartments, and those listening to certain radio programs, he must keep clearly in mind, before planning the exact sample to be taken, that these constitute his many minor universes, although his major universe (to be covered in the gross sample) embraces all types of housewives within the geographic areas and population groups included in the study.

The result of these first two steps in planning the sample is clear definition in the mind of the project director of the nature and extent of the major universe and the various minor universes which must be covered in the investigation. A clear understanding of the major universe is an essential prerequisite to planning the total number of cases to be included in the analysis (the gross sample). A clear understanding of the exact minor universes which must be covered is a necessary prerequisite to planning the subsamples, which must also be adequate and reliable. With this knowledge of the various universes which are involved, the researcher is ready to proceed to the remaining steps.

A word of rather obvious caution is necessary at this point. One can see an almost endless number of minor universes which are theoretically involved in a questionnaire or a plan for an observational or experimental study. The researcher could very easily lose himself in the realm of theory if he were to attempt to provide proper subsamples for all the minor universes he might describe for any given study. It is important, however, to make sure an adequate sample

people interviewed will read a given magazine. The size of the sample necessary to produce reliability for various degrees of tolerance will be found in the "10 or 90%" column.

The various tolerances are shown in the first column. If it is decided that a tolerance of two percentage points either way is acceptable, we follow row "2.0%" in the first column over to the third column, and find that 609 completed interviews will be necessary. If we decide that greater accuracy is required, so that the maximum sampling tolerance would be reduced to one percentage point either way (row "1.0%"), the table shows that the sample would have to be increased to 2,435 cases.

TABLE 43

## TABLE FOR DETERMINING SAMPLE SIZE \*

(Sample size necessary to insure, with 90 per cent certainty, that the survey proportions are within a given number of percentage points of the true value)

Maximum Percentage Error Either Way	Frequency with Which Phenomenon Occurs					
	5 or 95%	10 or 90%	20 or 80%	30 or 70%	40 or 60%	50%
.5%	5,141	9,742	17,319	22,731	25,978	27,060
1.0%	1,285	2,435	4,330	5,683	6,494	6,765
2.0%	322	609	1,082	1,421	1,624	1,691
3.0%	143	271	481	631	722	752
4.0%	80	152	271	355	406	423
5.0%	51	97	173	227	260	271
10.0%	—	—	—	57	65	68

\* Based on the formula  $N = \frac{2.71 \cdot pq}{E^2}$  where  $p$  is the relative frequency with which the phenomenon occurs,  $q = 1 - p$ , and  $E$  the maximum allowable error either way.

This table is based on 90 per cent certainty because this basis of determining sample size is the most practical one and provides adequate reliability for most marketing research investigations. To increase the degree of reliability beyond 90 per cent certainty requires greatly increased samples. In the illustration cited above, in which the frequency of occurrence was 10 per cent and the allowable error 2.0 per cent, to increase the reliability to 95 per cent certainty would mean increasing the number of interviews from 609 to 864. While many statistical textbooks discuss sample size on the basis of limits of three standard deviations, present sampling prac-

tice favors the use of two standard deviations employed in the table as being adequate for all practical purposes.

It should be observed that this procedure is equally applicable to all methods of obtaining data. The usual explanation of the theory is in terms of surveys, in which the determination of frequency of occurrence is a matter of the number of "yes" answers. For questions which are answered in other ways, the procedure is to take some part of the conclusion which is significant and treat this as a "yes" answer. For example, if in an opinion survey involving four possible answers to a question about labor policies we find that 8 per cent of the respondents choose the attitude "the company pays good wages and treats its employees as well as any other company," this 8 per cent figure is treated as a "yes" reply and the accuracy of the sample determined on this basis. Similarly, in an observational or experimental study, any item of data may be chosen and the sample size tested on the basis of the percentage of the occurrence of this item to the total chances of its occurring. For instance, in a test of the sales value of three different displays, assume that it is found that display **A** sold 2,345 units of the product, display **B**, 2,600, and display **C**, 3,055. The total is 8,000, and this figure becomes the sampling base. The relative percentages are respectively, 29.3, 32.5, and 38.2. By applying the sampling table (Table 43) to the frequency of occurrence for display **A**, we find that our sampling tolerance is less than 1 per cent either way, so the maximum for display **A** could not be over 30.3 per cent. Applying the sampling table to the results for display **B**, we find that its share of sales could not be lower than 31.5 per cent. Since these two figures do not overlap, we conclude that the sample size is sufficient to establish the relative values of all three displays.

In the actual planning of a sample for a proposed study it is necessary to check various vital questions or elements, and to estimate the frequency of occurrence for these items. It is obviously impracticable and unnecessary to check all items. After a tentative estimation has been made, it is general practice to hold in abeyance the determination of final sample size until the results of the test investigation confirm or modify the original estimates as to frequency of occurrence.

**Simplified Methods of Determining Sample Size.**—Sometimes a quick estimate of the approximate size of sample is desired when there is no opportunity to refer to a table of sample sizes or to make computations. A rough rule which may be employed under these circumstances is to multiply the percentage of affirmative answers

expected on a particular point by the difference from 100. Thus, if a frequency of occurrence ("yes" answers) of 15 per cent is anticipated, multiply 15 by 85. The resulting product indicates that a sample of approximately 1,275 will be needed.

This rough rule indicates sample size for a tolerance of less than two percentage points either way. By referring to the table of sample size shown on page 476 (Table 43), we find that the sample indicated for a 20 per cent occurrence with a 2 per cent tolerance is 1,082, so it is clear in this instance that the quick rule produces a result well within the 2 per cent tolerance limit. This estimating rule should be used only for quick, rough estimates, but to achieve greater accuracy and to avoid oversampling, the sample size should be determined from tables or by formula.<sup>14</sup>

In planning the sample for a marketing research study, it is generally found that certain aspects of data gathering require much larger samples than do others. In an observational or experimental study, for example, there may be certain items of relatively large frequency of occurrence on which only a small tolerance can be allowed, thereby necessitating very large samples. Some other part of the study may not require such high accuracy in sampling. In such a case, it might not be economical to take a very large sample for the entire study; instead, it would be considered good sampling strategy to divide the study into two elements—one requiring extensive sampling and the other requiring only a few samples. Likewise, in a survey questions requiring an extensive sampling might be asked in all questionnaires, and those requiring fewer samples might be alternated or rotated among different sets of questionnaires.

**Effect of the Size of a Sample on Its Soundness.**—Unfortunately, many persons have the impression that the soundness of a sample depends largely upon the number of cases included.<sup>15</sup> The result is that a premium is placed upon including a large number of interviews in a research project, to the neglect of much more important considerations of reliability and proportionality.

The fact that the soundness of a sample is not dependent upon its size was dramatically demonstrated by the results of the *Literary Digest* presidential poll of 1936. Over 2,500,000 cases were included in the sample taken, yet the results of this poll were incorrect,

<sup>14</sup> See Russell H. Colley, "How to Determine the Size of a Survey Sample," *Printers' Ink*, September 6, 1946, pp. 35-37. This article illustrates a pocket calculator, invented by the author, for a rapid estimation of sample size.

<sup>15</sup> Robert N. King, "The Fallacy of Large Numbers," *Market Research*, February, 1935, pp. 19 ff.

while three other studies, each based upon a much smaller number of interviews, were comparatively close to the final election results. The *Literary Digest* poll had an error of approximately 20 per cent, large enough to make its conclusions completely erroneous. The *Fortune* survey, based on a sample of only 4,500 cases, correctly predicted the general result, and estimated the popular vote preference for President Roosevelt with an error of less than 1.2 per cent.<sup>16</sup>

As one increases the number of cases included in a sample, the reliability of the sample does not increase in the same proportion. In other words, a sample including 1,000 cases is not twice as accurate as a sample including 500 cases. Theoretically, the goodness of a sample increases in proportion to the square root of the number. Thus, to double the accuracy of a sample it is necessary to increase it fourfold. To make a sample of 1,000 cases twice as accurate it is necessary to increase its size to approximately 4,000.

The following table shows a comparison of the results obtained from increasing the size of a sample.<sup>17</sup> It demonstrates that the accuracy of a sample is increased very slightly by a relatively large increase in the number of cases, and it also shows the waste encountered by not following this principle.

TABLE 44

CLASSIFICATION OF MAGAZINE SUBSCRIBERS BY INCOME GROUPS  
Showing Class Agreement Between the First 3,000 Subscribers Selected by Chance  
and a Total of 41,465 Subscribers

Income Groups	3,000 Subscribers	41,465 Subscribers
Incomes \$10,000 and over.....	1.6%	1.6%
Incomes 5,000 -10,000.....	4.6	4.5
Incomes 2,000 - 5,000.....	35.7	35.3
Incomes 1,000 - 2,000.....	53.8	53.8
Incomes under \$1,000.....	4.3	4.8
	100.0%	100.0%

**Determining the Distribution of the Sample for Proportionality (Sample Design).—**If the area sampling method is employed, it is assumed that through its random element the various segments of the market will be represented in the sample in the same proportions in which they occur in the universe. If the quota method is

<sup>16</sup> See *Fortune*, Supplement, December, 1936.

<sup>17</sup> Study made by Daniel Starch for the American Association of Advertising Agencies.



employed, however, it is necessary to construct a sample design which will insure a proper distribution of the sample among marketing segments on the basis of certain sample controls.

In applying the principle of proportionality, the most important rule to remember is that proportionality is necessary only for those classifications or types which have a significant bearing upon the study. In the first example in the preceding paragraph, proportionality between families in apartments and other types of dwellings need be maintained only if type of dwelling will affect the conclusions of the study. There are theoretically innumerable possible classifications which might be applied to the cases included in any given research operation. To attempt to obtain even reasonable proportionality on the basis of all possible kinds of classifications would be a waste of time and unnecessary. On the other hand, insofar as any given classification is likely to have a significant bearing on the finding, it is essential that proper proportionality be secured. Therefore, one must first determine the various bases of classification which will have a significant bearing upon the analysis.

The main statistical problem of sample design is the formation of strata and cross strata resulting in cells into which the population will be divided. This basic principle of stratification for quota sampling is well known and is accepted as fundamental in market research. Need for a sample design based on stratification originates in the fact that social populations to be sampled are complex and not homogeneous. . . . The result is that the total population must be broken into groups within each of which the population is more nearly homogeneous than the original one. Random sampling is then possible within each group and representation of the diversities of the population is assured through the group structure of the total sample.

The particular social elements which enter into the design of the sample are determined by the nature of the problem at hand. The boundaries or scope of the problem must be defined in a statement which will thereby point to the kind of elements to be used. These conditions of the research must be clearly and completely stated before factors for design and validation can be chosen in conformity with the objectives of the survey. For example, the design of a sample to be used in determining the kind and amount of fishing tackle preferred by fishermen is, of course, developed on very different standards than one for a sample to determine the nature and extent of race prejudices.<sup>18</sup>

If one is making a study of the sources used for obtaining automobile repair service, he must determine whether there is a significant variation on the basis of the brands of automobiles owned. If

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<sup>18</sup> "Design, Size and Validation of Sample for Market Research," *Journal of Marketing*, January, 1946, p. 226.

there is a significant variation on this basis and one were to obtain an equal number of interviews with owners of each brand, the results of the analysis would be worthless. This is true because the principle of proportionality would be violated, as the owners of Chevrolets are much more numerous than the owners of Cadillacs. In such a case, if there are fifty times as many owners of Chevrolet automobiles as owners of Cadillacs, the sample should provide for the inclusion of owners of these two brands in approximately that ratio.

**Selecting Sample Controls.**—The selection of the controls for a quota sample should be based on past experience and the results of a test investigation. There is danger that a set of more or less routine controls will be automatically applied from study to study.<sup>19</sup> Age, sex, economic status, geographic area, and city size are the standard controls employed for proportionality. For certain studies, other controls may be much more significant.

As new controls are added, it becomes more difficult for the interviewer to fill quotas properly. This leads to added costs or, even more likely, to a drop in the standards of the interviewer. When the number of controls reaches the stage where the interviewer must find a southern European male aged thirty-five to forty-five, married, with no children, owning a medium-priced automobile, in the "C" economic class, living in a small community, and reading one or more of a designated list of magazines, it is little wonder that the field investigator throws up his hands and does a little substituting. Yet it must be remembered that in most surveys the field worker is given at least three or four quota controls which arise from the sampling plan. In addition, the respondent must often fulfill certain eligibility requirements, such as being a regular user of a particular brand or type of cosmetic. Where such requirements are present, the number of sampling controls should be reduced.

To illustrate the controls employed in quota sampling, the National Opinion Research Center at the University of Denver may be cited.<sup>20</sup> This organization has had extensive experience in the application of stratified sampling, and its cross-section is controlled by:

1. Regional geographic distribution.
2. Urban-rural geographic distribution.
3. Sex.

<sup>19</sup> See George H. Brown, "A Comparison of Sampling Methods," *Journal of Marketing*, April, 1947, p. 334.

<sup>20</sup> See *How NORC Builds Its Cross-Section*, National Opinion Research Center, July, 1946.

4. Color.
5. Age (partial control).
6. Standard-of-living level.

One question which always arises in connection with quota sampling is whether the controls should be applied individually or concurrently in arriving at the distribution of the sample into its various cells. Suppose that a sample is to be controlled by age, sex, and economic status. Individual application of controls means that the total sample includes the proper proportions of age groups, sex groups, and economic classes, without considering the relationship of one factor to another. Concurrent control means that cells are set up in such a manner that each unit reflects age groups by sex and by economic status.

The latter method is much more complicated, particularly if a large number of controls are employed. However, it is obviously a much more accurate method, for a sample might well be proportional for each of three or more controls considered independently, but quite disproportionate in relation to one another. For example, too many of the interviews with males might run in the younger age categories, with those of females being in the older. The controls would check out individually, but the end result would be a distorted sample.

It is obvious, where a large number of controls are employed, that complete concurrent application to sample design is impracticable. The most common procedure, therefore, is to apply certain controls concurrently, but to allow some of them to be applied independently.

**The Final Sampling Plan.**—The final sampling plan is in the form of a table or series of tables showing the number of cases to be taken and their distribution by various marketing units. Each of these units within the plan is called a cell, and interviewing or observations must be taken according to the pattern shown.

Table 45 shows one of the tables from the master plan of a quota sample of Chicago. The two concurrent controls illustrated are income class by type of dwelling. In this particular study, these two controls were basic, and the only other control employed was a proper distribution of interviews by various districts within the city to insure correct geographic distribution. The selection of the controls was based on market experience for the product, which had repeatedly demonstrated that the essential controls were the two used. A later verification of survey results by actual sales figures on vari-

ous types of the product for the Chicago area confirmed the accuracy of the sample and the method employed in collecting the data.

### The Test Investigation

After the forms for collecting data have been devised and the sample constructed, the next step in planning is to conduct an orderly test investigation. Actually the testing of methods is a more or less continuous procedure, and effective research is largely earmarked by the amount of testing and retesting to which the various operations are repeatedly subjected. One question asked in a survey, for example, may be tested in various forms several different times to determine the specific wording which will yield the most accurate replies.

Such testing and retesting, however, is applied to individual elements of the project, such as the questionnaire, instructions, and supervision, and to individual parts of each element. These tests are very informal in nature and limited in scope. Before the final operating plans are developed, however, it is necessary to conduct a more organized test of the entire formal research project in order to uncover all possible difficulties which may be encountered later in the study and to verify the appropriateness of the basic procedure.

The scope of the test investigation, in comparison with the final formal research project, is quite restricted. If the sample plan calls for 5,000 completed interviews, the test investigation may be limited to 200 to 500 interviews. In observational or experimental studies, the test may be limited to observations or experiments set up at one or two points. Statistical quantities drawn from the test investigation are not significant. What is necessary is that all the important elements which will be encountered in the final project be represented in the test, and that the conditions of the test simulate those of the formal investigation as closely as possible.

This simulation means, for example, that the interviewers or observers employed to conduct the field test work must be of a caliber similar to those who will be doing the bulk of the data collecting later on. It is a common error to rely upon tests made by supervisors or selected, high-quality interviewers. In the test investigation average field workers must be employed, and it is generally good practice to select some of the lowest-grade investigators. Similarly the instructions should be tested in their final form, subject to only minor editing, and given to investigators in exactly the same manner as they will be employed later. For example, if the field force is to

TABLE 45

## DISTRIBUTION OF A QUOTA SAMPLE—FAMILIES IN TOTAL CHICAGO MARKET AND IN SURVEY SAMPLE

(By income classes and type of dwelling)

Income Class	Chicago Families — By Type of Dwelling				2,036 Families Surveyed			
	Total Families No.	1-Family Homes	2-Family Homes	3 or more Family Homes	Total Families No.	1-Family Homes	2-Family Homes	3 or more Family Homes
"A" .....	105,204 100.0%	26,238 25.0%	29,083 27.6%	49,883 47.4%	224 100.0%	64 28.6%	32 14.3%	128 57.1%
"B" .....	209,811 100.0%	52,239 24.9%	57,904 27.6%	99,668 47.5%	452 100.0%	97 21.5%	93 20.6%	262 57.9%
"C" .....	291,241 100.0%	72,331 24.8%	80,174 27.5%	138,736 47.7%	627 100.0%	182 29.0%	196 31.3%	249 39.7%
"D" .....	199,048 100.0%	49,639 24.9%	55,022 27.6%	94,387 47.5%	429 100.0%	107 24.9%	157 36.6%	165 38.5%
"E" .....	144,000 100.0%	35,929 25.0%	39,825 27.7%	68,246 47.3%	304 100.0%	50 16.5%	77 25.3%	177 58.2%
Total Families.....	949,304 100.0%	236,376 24.9%	262,008 27.6%	450,920 47.5%	2,036 100.0%	500 24.6%	555 27.3%	981 48.1%

be contacted by mail, rather than by central-office supervisors, the instructions should be handed to the test field workers without comment. The forms, likewise, should be identical with those to be used in the final investigation.

After the test field work is completed, the forms are processed by editing, coding, and tabulating, just as the reports received in the final field work will be handled. This work is most important, as it provides the final check on the forms and field procedures themselves and also provides a basis for preplanning the later stages.

The specific purposes of the test investigation are as follows:

1. To develop and verify the final forms to be employed in collecting data.
2. To develop and verify the instructions to field workers.
3. To discover problems in connection with the sampling plan under field conditions, including obtaining quotas for the various strata involved in quota sampling and control of randomization in area sampling.
4. To discover the various mechanical problems which arise in connection with the field work, and provide a basis for proper supervision and handling of the field force.
5. To provide an opportunity for trial editing and tabulation, so that procedures for the later processing of field data may be developed in advance.
6. To gear up the entire organization for the handling of the major project.
7. To develop specific cost data for field and later operations.

In addition to meeting these specific purposes, the test investigation provides the researcher with final confirmation of the value of the total research undertaking. This proof of the essential validity of the study is most essential at this stage, before final commitments for the bulk of the project are made. It is therefore paramount that a sufficiently formalized and extensive test investigation be made at this point in the planning operation.

The test investigation must be followed carefully by the project supervisors and by others associated with the research. This is the proving ground in which problems which will arise in gathering data and later stages are first encountered. Solving these problems by small-scale tests, in advance of the more costly expanded operations saves money, time, and trouble. Few operations pay greater practical dividends to the researcher than careful handling of the test investigation.

## Determining Operating Plans and Costs

The final step in planning a marketing research is laying out a set of operating plans and costing the remainder of the work. The factors which control the operating plans and costs for any given research are determined by the circumstances under which the specific job is carried out. It is, therefore, impossible to apply too general standards to this phase of the work.

The importance of planning a specific operating schedule for a marketing research can scarcely be overemphasized. By the time the plan has been completed and tested, it should be possible to work out an accurate time program which will make the progress of the later analysis orderly and avoid confusion or unnecessary delays.

**Costs of Marketing Research.**—Costs are dependent upon the character of the problem, and vary greatly. Hence no detailed statement or listing of costs which should be anticipated can be made here. However, the importance of carefully costing the various operations and setting up an adequate budget should be recognized. It is very easy for the costs of staff time, supervision, field work, tabulation, and the physical preparation of reports to get out of hand. A budget, based upon past experience and test results should be worked out, and a routine established for keeping commitments currently recorded.

**Cost Elements in the Particular Problem.**—There are several pitfalls in costing marketing research work which should be avoided. One of the chief errors is the failure to recognize the various cost elements which are dictated by the character of the problem which must be solved. There is an unfortunate tendency to assume that any study of a given general type, such as a product research, a consumer survey, or a copy test, should involve total expenditures which are more or less standard for each of these types.

That such an assumption is erroneous is illustrated by an analysis of the costs incurred in seven different product researches made by an independent research organization. While these studies were made by one organization, and hence individual elements in costs such as salary rates were constant, the total expenditures for each of the seven studies ranged from approximately \$800 to \$13,000. While they were all product studies, the wide variation in over-all cost arose from differences in the kind of products being tested, variations in marketing conditions, contrasts in developmental problems encountered, and other specific elements. Differences in the

difficulty of locating qualified respondents, sampling requirements, the amount of exploratory work required, and many other factors which affect research costs are encountered in all types of marketing and distribution research.

**Understanding the Scope of Work Involved.**—A second pitfall in estimating and judging research costs is the failure to understand the scope of the work which is involved. This is illustrated by the common tendency to emphasize the more physical aspects, such as field work and tabulation, without recognizing the many other phases of marketing research which are necessary and which therefore take time and cost money. The practice of comparing costs on the basis of "cost per interview," which is rather prevalent in some quarters, is proper as a basis of appraising interviewing and tabulation costs, but only when limited to comparable operations. It is a completely erroneous practice when applied to the total expenditures involved in different research projects, because the amount of time and money required in planning, testing, analyzing, and interpreting, and in other phases of the work vary greatly as between projects. Incidentally, experience has shown that these less physical elements, which may determine the ultimate value of a given project, are sometimes the most costly part of the job.

**Keeping Cost Records.**—An important consideration is the keeping of adequate cost records. Because of the time pressure frequently encountered in research work, many analysts fail to keep accurate records of cost items so that they may have usable data on studies made in the past. These records should be maintained and analyzed from time to time to establish standards for marketing research work, just as cost standards are developed in other phases of business operations. Various cost ratios, such as the cost per interview under various conditions and tabulation rates, should be developed for purposes of internal control.

The most helpful device in costing marketing research work is the use of a cost analysis sheet such as that illustrated by Figure 30. This sheet shows the breakdown of research costs into the important standard elements. Additional columns may be inserted to record percentages which will show the distribution of cost among the different elements for various types of research projects. These percentages, when a large number have been accumulated and variations level off, are very helpful ratios for use in estimating. The actual form should be larger than that shown and should provide ample space for figuring cost estimates.



COST ESTIMATE or ANALYSIS				
Job No. _____		Date _____		Department _____
Description of Project _____				
_____				
Operation	Time or Quantity	Direct Costs	Indirect Costs	Total Cost
<i>Research Staff</i>		\$	\$	\$
Planning.....				
Sample development....				
Field supervision.....				
Field work by staff.....				
Editing and tabulation supervision.....				
Analysis and report time.				
Travel expense.....				
(Subtotal).....				
<i>Field Costs</i>				
Procuring staff.....				
Testing.....				
Urban interviews.....				
Rural interviews.....				
Other field help.....				
Field travel.....				
Checking returns.....				
(Subtotal).....				
<i>Editing, Coding, Tabulation</i>				
Planning.....				
Editing and coding.....				
Tabulating.....				
Outside tabulation.....				
Computing.....				
(Subtotal).....				
<i>Report Preparation</i>				
Typing.....				
Art work.....				
Binders.....				
(Subtotal).....				
<i>Misc. Outside Costs</i>				
Postage and express.....				
Printing and offsetting...				
Consulting services.....				
Participation fees.....				
Other.....				
TOTAL COSTS				

Figure 30. Cost Estimate or Analysis Form

This form, or one similar to it, is of great value in controlling costs of marketing research. It should be used both for the preparation of estimates in planning jobs and for analyzing actual costs incurred in jobs which have been completed, in order to develop standard costs.

By keeping accurate records of cost experience with various projects, it is possible to arrive at standard costs or ratios. If this information is accumulated, a proposed undertaking can be estimated with surprising accuracy unless some exceptional, unforeseen circumstance arises. Under any circumstances it is important to have a carefully prepared cost estimate as a budgeting device and as a control on the major research project.

**Allowing Adequate Time and Funds.**—One of the most common causes of ineffective marketing research is the failure to allow adequate time and sufficient funds. It is a long-established scientific truism that good research takes time and costs money. Unfortunately, due largely to the fast tempo of many marketing activities, a time pressure is sometimes placed on the research which makes it impossible to conduct an adequate analysis of the problem. Likewise, because of faulty practices developed in its early beginnings, there is insufficient appreciation of the costs which are inherent in producing high-quality research, so that entirely too much superficial and inaccurate work is found in this field.

There is no excuse for unnecessary delay in executing the plan, or for wasting funds. On the other hand, it is an injustice to sacrifice the quality of the research to the two enemies of quality: speed and false economy. If the nature of the problem does not warrant the necessary time and expenditures, it is often better to forego the research, because bad research may be misleading and disastrous.

A great deal of misunderstanding exists about the cost of marketing research work. All too often executives who do not know the various cost details of research attempt to protect themselves by looking for bargains, not realizing that cheap research, like a cheap machine, is likely to be more costly in the long run. The benefits resulting from effective research accrue over a period of many years, and in relation to the financial importance of the decisions based on it, the cost of the research is negligible. At the same time an unnecessary contributing factor to high costs is the lack of care in determining operating plans, proper budgeting in advance, and the maintenance of adequate analytical cost records. As time passes and people understand marketing research better, both the researcher and the businessman who uses his services will appreciate that marketing research work need be neither too costly nor wasteful, but that adequate time and money to meet the specific requirements of the problem must be provided.

## CHAPTER 22

### COLLECTING MARKETING DATA

Most marketing research projects involve a rather extensive collection of *primary data*—those which must be obtained directly in the course of the study. Because it is extremely important that the field force obtain accurate and useful facts in accordance with certain standards, this chapter discusses the gathering of original marketing data in some detail.

However, the importance of secondary data—those which have already been obtained by some other source, such as a governmental agency, the accounting department of the individual firm, or from published sources—must not be overlooked. A list of sources and criteria for determining their usefulness for purposes of a marketing research study has already been presented.<sup>1</sup>

**Supervision of Personal Investigators.**—The key to the successful handling of the entire data-gathering operation lies largely in the quality of the supervision which is employed. The first consideration should, therefore, be providing an adequate number of well-qualified supervisors. Unfortunately there is a tendency to skimp on this part of the work because it appears to be an additional overhead burden. However, the data will be much better and many later difficulties will be avoided if adequate provision for supervision is made. Furthermore, it can be readily demonstrated that payment for high-grade supervision is a good investment which will more than carry itself in the savings which result from more efficient work of investigators and from eliminating the necessity of throwing away unsatisfactory field reports.

The first qualification of the good supervisor is an extensive, successful experience as an investigator. One of the primary duties of the supervisor is to train investigators, and this training can be effectively accomplished only if the supervisor can make good demonstration interviews. Furthermore, experience as an investigator will show the supervisor the errors which are likely to be encountered and which therefore make it possible for him to control better the persons placed under him.

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<sup>1</sup> See pp. 397-405.

Not all qualified investigators, however, will make good supervisors. This is true because a second qualification for a supervisor is the ability to handle other people. His patience will be constantly tried by the unsatisfactory work of many investigators. He must have a sufficiently commanding personality to persuade investigators to carry out his instructions carefully, even when not being watched. Furthermore, there are many minor routine administrative functions which must be performed in organizing and directing investigators, even when only two or three assistants are employed.

A third qualification of a supervisor is a willingness to work hard and spend long hours at his task. A great deal of time must be spent in checking the work of individual investigators, making out reports, and mailing questionnaires and other forms to the central office. Much of this work must be done in the evening and on holidays. It is, therefore, important that the supervisor be one who is prepared to work hard and spend long hours.

A final important qualification for supervisors is honesty. There are many points at which investigators can be dishonest. The supervisor must be careful to check the investigators and report on them fairly. There is a tendency for supervisors to attempt to cover the mistakes of investigators. There are also many temptations in making out time sheets and reports of expenses. Since most supervisors will be far removed from the control of the central office, honesty is a primary requisite.

Some people stress the importance of general education, knowledge of marketing principles and research procedures, understanding of the purposes of the particular study, and various other qualifications for supervisors. While some of these may be desirable, they are not nearly so significant as the four discussed above.

**Selecting Investigators.**—The bulk of marketing research data are collected by part-time interviewers who work primarily in localities in which they reside. It has always been hoped that it would be possible to build a relatively small staff of highly competent, full-time interviewers, paid on a regular salary basis, who can go from place to place to do interviewing during a survey. While attempts have been made to establish such organizations, the variation in volume of field research and the necessity of covering so many different markets have made it uneconomical to attempt to maintain staffs adequate for national studies. The plan has been used in the Division of Program Surveys of the Department of Agriculture, but even the government must rely on part-time interviewers for a

good share of its work. In fact, relatively few commercial organizations maintain even a modicum staff of full-time field supervisors, most of them relying on established local organizations and local supervisors.

There is a national pool of local interviewers, spread throughout hundreds of communities, who are generally known to most research organizations. Some of them devote their full time to interviewing as a career, but most of them work on a part-time basis. Furthermore, the bulk of these field investigators work for a number of different research organizations. Bennett found in a recent survey that a group of 695 local interviewers worked for an aggregate of 438 different concerns. Three out of ten of these interviewers had worked for ten or more concerns, and more than half of them had worked for five or more.<sup>2</sup>

In the principal cities there are also local or regional organizations which provide field-interviewing coverage on a flat fee or cost-plus basis. In several sections of the country—for example, the Pacific Coast—these organizations have considerable experience and provide an economical and reliable service. There are few research projects, however, in which it is not necessary to select individual local investigators from the general pool.

The importance of skillful and careful selection of investigators is emphasized by a number of studies of interviewer bias and inaccuracies.<sup>3</sup> It has been found, in controlled tests, that personal bias of interviewers, differences in degree of success in eliciting factual information, differences in reporting answers, and ability to follow instructions and the questionnaire order are common elements which make the quality of field work vary a great deal.

**Sources of Field Investigators.**—Once a research organization has operated over a period of time, and its name becomes generally known throughout the field, it acquires a list of part-time field interviewers. However, it is necessary to recruit a new field staff constantly, both to keep field resources up to full complement and to cover new markets for specific studies.

New interviewers are obtained chiefly from these sources:<sup>4</sup>

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<sup>2</sup> Archibald S. Bennett, *Report on Researching Researchers*, New York, A. S. Bennett Associates, 1948, p. 33.

<sup>3</sup> See Sam Shapiro and John C. Eberhart, "Interviewer Differences in an Intensive Interview Survey," *International Journal of Opinion and Attitude Research*, June, 1947. See also Lester Guest, "A Study of Interviewer Competence," *International Journal of Opinion and Attitude Research*, December, 1947.

<sup>4</sup> See "Selecting, Training, and Supervision of Field Interviewers in Marketing Research," Report of committee of American Marketing Association, *Journal of Marketing*, January, 1948, pp. 366 ff.

1. Letters of application.
2. Academic institutions (student and faculty).
3. Women's organizations, key citizens of the community.
4. Newspapers.
5. Other marketing research organizations.

**Qualifications of Investigators.**—To attempt to list here all the desirable qualifications of investigators would in itself require a small volume. Naturally the researcher seeks to employ as high-grade people as possible. As a matter of fact, however, in view of the low rates of pay and the temporary nature of much of the work done by field investigators, it is impracticable to set ideal standards.

One should guard against forming a crystallized notion of the "ideal investigator" and judging applicants on any such standard. It is entirely too easy to set too high standards of appearance, dress, manner, and experience in the problems of business. To have such a stereotype in the minds of the supervisor or other person responsible for hiring investigators will often lead to employing individuals who lack more important qualities.

All general characteristics of a good interviewer must give way to one basic consideration: the special requirements of the particular type of interview to be made. If the field work involves interviewing business executives, it obviously calls for an entirely different type of interviewer from that needed to interview retail grocers. For calls made in high-income neighborhoods, still another sort of person may be required from that needed for calls in the low income groups. Interpretive surveys can be successfully made only by a very exceptional type of interviewer. A person who is making interviews among the rank and file of passers-by at a street corner does not need the qualifications of one who must gain access to the kitchen. The first consideration in selecting interviewers should, therefore, be the exact job which the interviewer must perform.

Bearing in mind the primary importance of selecting interviewers on the basis of the requirements of the work to be done, there are several points on which general standards may be set.

**AGE.**—Between the ages of twenty-five and forty, one is most likely to find the best type of interviewers. Those who are too young lack tact and the ability to approach people properly. Those who are too old are usually not willing to follow instructions carefully and are not sufficiently aggressive. Generally speaking, a person about thirty years of age is ideal for field investigation work.

**SEX.**—Some researchers prefer women investigators; others, men. It is common practice to employ women for consumer calls and men for dealer calls. Some men, however, are very capable of conducting consumer interviews, and some women are superior to most men for dealer work. Certainly it is a mistake to employ a mediocre person, because of a preconceived notion that one of the sexes has an advantage over the other. Sex, therefore, is a relatively minor matter which should give way to other qualifications, except in so far as unusual demands of a particular analysis require the employment of either men or women.

**OCCUPATION.**—In most cities there are persons who act as field representatives for a number of organizations and make this work their entire source of income. These are not necessarily the best type of interviewers, although an organization will learn in time which ones are good. Most field investigators, however, have other sources of income. Housewives who find it necessary to supplement the incomes of their husbands and younger widows are generally among the best occupational sources of field investigators.

Schoolteachers make excellent interviewers, although there are exceptions. Graduate students specializing in the marketing field are another good source. One danger in using teachers as investigators is that they are sometimes inclined to turn the actual field work over to inexperienced or otherwise unqualified students. Undergraduate students are frequently used as field investigators, but are not generally satisfactory. Most of them are too young, do not take the work seriously enough, lack previous experience, and are entirely too busy in their school work to devote the necessary time to obtaining interviews. Unfortunately, some organizations make a general practice of employing student interviewers. When this is done on a large scale the field work will be of poor quality.

**VOICE AND APPEARANCE.**—Most people assume that a good investigator should be brimming with personality and present the best possible appearance. Experience shows that one who is rather plain-looking and not too well dressed is much more satisfactory. The investigator's voice and manner of speaking should be pleasant, though clear and firm. Some researchers prefer that investigators do not appear too intelligent or sophisticated, as these qualities put the person interviewed on guard, so that it is more difficult to obtain the desired information.

**EXPERIENCE.**—The importance of experience on the part of interviewers depends largely on the amount and quality of super-

vision which is provided. If the analyst has no organization in operation, it is important to obtain investigators with wide experience. If an efficient organization which provides adequate training and supervision is doing the research, the amount of past experience possessed by field workers is one of the less important qualities to be sought.

It is desirable to require some field experience to eliminate those persons who do not have the general qualifications necessary to make a good interviewer. Beyond this, however, the value of experience may be greatly overestimated. After six months to one year of training there is usually very little increase in investigating ability as a result of the additional work.

**WILLINGNESS TO WORK.**—The pay for interviewers is usually relatively low. Furthermore, a large share of their work must be done when it is impossible to provide direct supervision. Finally, the nature of the work is such that there are many temptations to "soldier." For these reasons, investigators who are not nearly so well qualified as others on some points are often much more satisfactory because they are willing to work hard. Many analysts make this quality a primary consideration in employing investigators.

**HONESTY.**—In spite of the care with which supervision and systems for checking the work of field interviewers are developed, there are so many opportunities for dishonesty that personal reliability is regarded as one of the most important single qualifications for field investigators.

**ABILITY TO READ AND UNDERSTAND INSTRUCTIONS.**—This is one of the most significant qualifications of a good field interviewer. Age, appearance, experience, and various other qualifications are not nearly so important as the ability to understand and the willingness to follow instructions carefully. By the time a research has reached the field, the data-gathering operation has been tested and retested, so that it is usually reduced to a largely standardized operation. If an ordinary interviewer carefully follows the prepared instructions, a satisfactory job is bound to result. Yet the careless or deliberate violation of specific instructions is one of the biggest problems met in field work. Most field directors place this qualification very high on their list.

**FREEDOM FROM PERSONAL BIAS.**—Analyses of marketing research studies and controlled experiments constantly demonstrate that results are unduly influenced by the personal biases of individual



interviewers. An extreme example is found in the field of social work. In a case study of 2,000 applicants for lodging, one investigator consistently found that those whom he interviewed met their downfall from one cause—liquor. He was a prohibitionist. A second interviewer found that more cases were caused by economic conditions. He was a socialist. In public opinion surveys the personal bias of the investigator most severely influences results.<sup>5</sup> This personal bias is present to a degree in all interviewers, and will be brought to the surface to some extent in almost any kind of marketing research. In product tests, for example, interviewers are likely to try the test products themselves, often later warping reports. Another kind of personal bias frequently encountered arises in connection with sampling. In spite of instructions for sampling, a good deal of personal interpretation as to whether to include a given respondent or how he should be classified is necessary. The tendency of individual interviewers to upgrade or downgrade in the matter of economic status is an illustration of a specific form of personal bias which may influence the quality of the local distribution of a sample.

**INTEREST IN FIELD WORK AND REASON FOR WORKING.**—A final qualification of a good investigator is a lively interest in doing field work. If an assignment is accepted as a dull, necessary chore or stopgap, the quality of field work is not likely to be very high. The field director usually makes an effort to determine just why an individual applicant wishes to do field work. The desire to supplement another source of income or to obtain experience in marketing work indicates that a prospect is likely to do a good job. Some understanding of the broad field of marketing research also reflects interest. But the most significant indication of all is evidence of belief in the crucial importance of the quality of field work to the success of research.<sup>6</sup>

**Interviewer Relations.**—In the past marketing researchers have paid too little attention to their personal relations with field workers. Too often members of the home office have looked down on field work as being beneath their dignity and relatively unimportant.

Progressive organizations have now instituted regular programs for the building of field morale. Regular visits from home-office personnel aid greatly. Interviewers appreciate being given note-

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<sup>5</sup> See page 195.

<sup>6</sup> See Carolyn F. Bader, *The Interviewer's Guide*, Institute of Market Research, 1947, pp. 35 ff.

books or other materials which they can use on the job, and the materials can be used as training devices. Small gifts from time to time also help to build morale and loyalty to a particular organization.

The interviewer is a human being and, above all, wants to be treated like one. Most interviewers have suffered from difficult personal or economic conditions at one time or another. Their task involves a great deal of drudgery and hard work. Unfortunately, they have been given very little personal consideration by too many organizations, and their contribution to the success or failure of a research project has been held in very low esteem. There has been too common a tendency to exploit field personnel by low pay, and particularly by the practice of assigning unreasonable quotas with a low rate of unit pay for interviews.

Fortunately, however, some organizations are making genuine efforts to obtain the field worker's point of view. The idea that field work is purely a production matter, and that costs must be reduced by every conceivable device, must disappear. A long-range morale-building program among interviewers is just as important to marketing research as an enlightened personnel program is to industry.

**Training Field Workers.**—There are two aspects to the work of training field investigators. The first is the general, continuing training activity which any research organization should maintain to improve the quality of its field staff. The second is on-the-job training for a specific assignment.

It should be emphasized that continual training of investigators must play an important role in the research operation. Too often the field worker is thought of only when there is a specific job to do, and forgotten as soon as it is completed. Actually, there should be a continuous relationship, regardless of the immediacy of specific assignments, if one is to have a field force available to do a competent job when the time arises. This maintenance work costs money, and is too often ignored through a shortsighted financial policy.

Well-handled correspondence is one of the most important elements in the general training. Calling the attention of interviewers to mistakes they have made, showing them how they can improve their own performance, and generally maintaining friendly relations are all important.

More and more attention is being paid to the development of field manuals or handbooks as the basis of the general training procedure. These handbooks are usually organized in loose-leaf form so that

they may be continually revised. They deal with general problems in marketing research of concern to the field worker, give specific information about the policies and procedures of the firm which prepares the manual, and provide specific instructions for handling certain situations according to the standards of the organization.

The most important points to be covered in the field worker's manual are the following:<sup>7</sup>

1. The sampling procedure.
2. Selection of respondents.
3. Judging economic class.
4. Approach and manner of interview.
5. Question phrasing and order.
6. "Don't know" answers.
7. Verbatim responses, voluntary comments, etc.
8. Checking questionnaires immediately after interview.
9. Other technical points.
10. Administrative section. (How to make out time reports, expense policy, etc.)
11. Job reports and questions during the survey.

**On-the-Job Training.**—There is no need for emphasizing the importance of adequately training investigators for each individual job. This special training should be provided for all investigators, regardless of their previous experience or skill. A system which has been established for on-the-job training is outlined in the discussion which follows.

1. **MEETING OF SUPERVISORS AND INVESTIGATORS.**—The first step in training is to have a meeting of the supervisor and all persons involved in the gathering of data in any one market or investigating unit. At this meeting the chief supervisor or other person most familiar with the purpose and scope of the study should carefully go over the forms and instructions word by word with the group, allowing ample opportunity for questions and answers.

2. **EXPERIMENTAL INTERVIEWS WITHIN THE GROUP.**—Just as nurses learn to handle hypodermic needles by practicing on each other, the investigators should be given an opportunity to try the questionnaire on one another immediately after the meeting. It is usually desirable to have each interviewer go through a complete interview from approach to departure with the chief supervisor at this time.

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<sup>7</sup> For a discussion of these points, see "Selecting, Training, and Supervision of Field Interviewers in Marketing Research," *Journal of Marketing*, January, 1948, pp. 372 ff.

3. SUPERVISOR'S DEMONSTRATION.—To demonstrate the proper way in which to handle the calls, the supervisor should conduct two or three field interviews in the presence of the interviewer. This should be done for each investigator before he makes his first interview, but it is obviously impractical in all cases. Usually the supervisor should be instructed to allow the more experienced interviewers to begin their field work while he conducts individual demonstrations before the less experienced undertake their work. However, the supervisor should later conduct demonstration interviews for other members of the staff, including the most experienced ones.

4. SUPERVISED INTERVIEWS.—After the supervisor has conducted two or three demonstration interviews, he should have the investigator being trained make a number of calls under his direct observation. After each of these calls, the supervisor should make suggestions as to how to make the approach, how to ask questions, and how to record data.

5. SPOT SUPERVISION.—Throughout the period in which field interviews are being obtained, the supervisor should make a limited number of observations of interviewers while they are making calls. This spot-checking is necessary to complete the training process as well as to keep the field force at maximum efficiency. It will often be found that interviewers have developed undesirable habits, such as injecting personal bias into the study, after they have been working for a day or two. The frequency with which this happens is in itself sufficiently important to warrant spot-checking interviewers throughout the progress of the field work.

6. CHECKING COMPLETED RETURNS.—At regular intervals, usually every night during the period of the field work, the supervisor should check over all the reports of calls made by the investigator. Each questionnaire should be gone over carefully to give it a preliminary editing and to show the interviewer errors which have been made. This review assures much closer supervision than is often obtained, for it is too common practice to allow interviewers to hand in their questionnaires without personal checking of each individual interview.

While the method for training and supervising field work which has been outlined above will insure maximum efficiency, it is neither difficult nor expensive to follow. A well-qualified supervisor can readily handle five or more investigators without slighting any of the steps mentioned.

**Instructions to Persons Gathering Data.**—Each person engaged in gathering the data, whether for survey, observational, or experimental research, should have complete written instructions. These instructions are usually written to the field interviewer or observer, with supplementary instructions (often handled in a covering letter) to the supervisors. These written instructions are very important, regardless of the amount of personal supervision which is provided.

The preparation of proper instructions is one of the most commonly neglected aspects of marketing research. Carelessly written instructions, or those which do violence to certain basic rules, are bound to depreciate the quality of any research. They may also lead to inordinate costs, for faulty instruction often necessitates the repetition of some field work which has already been completed.

In a recent study, a group of field workers were asked to analyze instructions in a variety of surveys. These were the most common criticisms: "too wordy," "omissions," "too fussy," "ambiguous," and "insults intelligence."<sup>8</sup>

A number of general considerations regarding instructions to interviewers must be kept in mind. These considerations center around one principle: the instructions should be prepared with a basic knowledge of the problems that the interviewer will encounter in the field; in short, the instructions should continually bear the flavor of being written from the interviewer's personal point of view. Some of these general considerations are the following:<sup>9</sup>

1. How to make the approach.
2. How to avoid refusals.
3. How to hold the respondent's interest.
4. How to obtain unbiased replies.
5. Information to be obtained from side conversation.
6. Accuracy in reporting.
7. How to get the proper cross-section in the sampling.
8. How to define economic levels.
9. Organizing the interviewing operation, maps, travel, assistants, etc.
10. Special interviewing situations and problems.

Every study has its own peculiar characteristics and problems which require that the instructions be specially written for each job.

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<sup>8</sup> Bennett, *op. cit.*, p. 12.

<sup>9</sup> For an excellent discussion of these and other points from the interviewer's point of view, see Bader, *op. cit.*, pp. 51-108.

In spite of this fact, there are certain basic rules which may be generally applied and which should be carefully followed in any given case.

**Rule 1.** *The instructions should be written so that they tell the interviewer exactly what to do.*

A common error in writing instructions is to explain at great length the information desired and why the questions are asked, rather than to show the interviewer just how to obtain the facts desired.

The following excerpt from a questionnaire will illustrate this point. This information relates to the desirability of certain features on automobiles.

(1) Accessory	(2) Value	(3) Would Buy at This Price	(4) Would Pay
1. Glove Compartment.....	\$4.00		
2. Spotlight.....	6.00		

In order to get a specific indication of the importance of these items to the individuals interviewed, a value was affixed to each of them as shown. The investigator was to write in the third column whether people would pay the standard price set, and if they said they would not pay this price he was to put in the fourth column the amount they would pay.

The instructions covering this question might have been written as follows:

In the third column indicate whether people would pay the price shown in the second column or not, and if they would not pay the price, show how much they would pay in the fourth column.

Instructions written in this manner violate the first rule because they do not show the investigator exactly what to do. The proper way to word these instructions follows:

Say to the person you are interviewing, "Suppose you were buying a new car which did not have a glove compartment in it, would you pay \$4.00 extra for it?" If respondent says "yes," write "yes" in the third column on the first line, and proceed to the second question (about the spotlight). If the person says "no," write "no" in the third column and then say to him, "Well, how much extra do you think you would pay for a glove compartment?" If the respondent gives a dollar-and-cents figure, write the exact amount in column four. If respondent says, "I don't know," write "Don't

know" in the fourth column. If respondent says, "Nothing," write "Nothing" in the fourth column.

After you have obtained the correct answer to the first question (on the glove compartment) ask the person you are interviewing, "If the car did not have a spotlight, and you could get one for \$6.00, would you buy it at this price?" Record the answers exactly as instructed for question one (relating to the glove compartment).

The reader will note that the instructions as rewritten tell the investigator exactly what to do. The first instructions are perfectly clear to the person who wrote them and would be understood by any intelligent person who took the time to study them carefully. They would not, however, result in standardized reports, which are essential. Furthermore, in many instances, most interviewers will not read instructions carefully enough to interpret properly general statements of what is wanted.

An important application of Rule 1 is in that part of the instructions which discusses the opening of the interview. Sometimes the instructions will go into a rather involved dissertation of the various ways of opening an interview. This violates the first rule, for the instructions should be written in the following form:

Begin the interview by saying, "Good morning, I am Miss Jones of the National Health Bureau which is making an investigation of ....."

The researcher, of course, realizes that there are many different ways to open an interview and that the form which should be used in any given case is a matter for special decision. Once he has decided the best general form, however, he should write his instructions as suggested above. If one form will not suffice for an investigation, alternative forms should be written. The alternative forms should be handled as suggested above, by telling the investigator exactly what to say.

*Rule 2. Tell investigators to report on all interviews or observations.*

This is a rule which is frequently overlooked and may cause much difficulty if not followed. Most investigators will submit only those reports which in their opinion represent completed and satisfactory interviews. The cases which are rejected may be more pertinent to the study than those included.

An example may be found in a study of mail-order buying habits. The most important single bit of information required in this study

was the percentage of people of different types who bought by mail. All the interviews made in one vicinity had to be discarded because the supervisor and investigators did not report on people *not* buying by mail. This was a perfectly natural mistake on their part because the first question was, "Have you bought anything by mail in the last year?" If the answer to the question was "No," the interview was completed. The investigator, however, thought this represented an incomplete report and did not include it.

Another reason for requiring that reports on all interviews be submitted is that the number of refusals and incompleted interviews shed light on the abilities of the investigator and the care with which the job was performed. These reports are also very important in connection with sample validation, particularly in connection with determining the significance of noncooperators.

**Rule 3.** *The instructions should be as brief as possible, yet sufficiently complete.*

This is a rather obvious rule, yet it is both difficult to follow and frequently violated. The importance of brevity can scarcely be overestimated, because investigators will never devote the time the project director would like to have them give to studying instructions. It doesn't help to tell them, "Read these instructions carefully" or "Read these instructions three times." The only solution is to make the instructions simple enough to be read as quickly as possible.

The rule for brevity requires primarily that wordy sentences, involved instructions, and repetition be eliminated. It does not mean that any phase of the work should be omitted. If the instructions relate to a questionnaire, for example, the investigator should be told exactly how to ask every question and fill in the replies. They should not, however, be given a philosophical discussion of the reasons for each question.

**Rule 4.** *The instructions should be broken up into a series of short paragraphs.*

One common error in writing instructions is to write a general essay which employs many long, involved paragraphs. The instructions should be arbitrarily broken up into a series of very short paragraphs, each usually containing only a few sentences. A good way to determine whether this rule has been properly followed is to check each paragraph to see if it contains only one clearly expressed idea. If a paragraph contains several ideas, it should be broken up into a series of paragraphs, each containing only one clear thought.



**Rule 5.** *The instructions should be written in simple language.*

After the instructions have been written, a careful review should be made to determine whether simpler words can be used. Nothing is more confusing than to use polysyllabic or uncommon words in instructions. The use of words like "interviewee," "establishment," "personality," and "intrusion" should be avoided and more generally used words substituted, even though the rules of good English may be violated.

**Rule 6.** *All terms must be clearly defined.*

No matter how clearly and simply the questions are written, there will be many terms which must be included that are subject to definition. The instructions should be carefully checked for such words. An example is "upper-class family." Unless the meaning of the term "upper-class" is clearly defined, one will find almost as many interpretations as investigators.

**Rule 7.** *The investigators should be told exactly where and when to call.*

One of the common errors in preparing instructions is to send investigators into a market without telling them exactly how to distribute their calls. These instructions should not be vague and general, such as "obtain a representative cross-section of the city," but should tell the specific streets or blocks to be worked, where to begin and where to stop interviewing, and exactly which houses to take. Sometimes there is a reason for the investigator not calling at certain times of the day or on certain days of the week. The instructions should be perfectly clear on this point.

**Rule 8.** *The investigators should be told that their work will be checked and edited.*

The work of all investigators should be carefully checked to make sure that they have carried out the instructions. If no system for regularly following up the field work is installed, it will be found that a certain number of interviewers will deliberately falsify returns, or even report interviews which have not been made. A system whereby the supervisors will check every tenth call, or some other method of checking, should be set up and enforced.

The investigators should be informed of this in the instructions. In the first place, it is only fair to them to tell them that their work will be checked. Furthermore, this will cause them to do a better



job. If they understand in the instructions that their individual reports will be carefully edited, they will also fill them out much more carefully.

**Rule 9.** *The instructions should be tested.*

After the instructions have been written as carefully as possible, following the rules previously discussed, they should be tested on a few investigators who have had no experience whatsoever with the particular job to be undertaken. In selecting the investigators on whom the instructions are to be tested, it is a good policy to choose those who are known to be among the less intelligent and capable ones. If the instructions are clear to the poorer grade of investigators who are not familiar with the study, one can feel assured that they are correctly written.

**Interviews with Executives and Other Important Persons.—**Whenever persons like business executives or professional men are to be interviewed, special problems arise. Such interviews are usually more difficult to obtain than ordinary dealer or consumer interviews, and the success of each individual interview has a more important bearing on the success of the investigation. These interviews are, therefore, usually planned carefully in advance so that they may be handled most effectively. The following rules cover many points of interest to anyone who must make important interviews:<sup>10</sup>

1. Make a definite appointment with the man to be interviewed and keep it to the minute.
2. Learn as much as possible about the man to be interviewed before you approach him.
3. Know the subject of the interview. The best interviewer is one with whom the interviewed can talk on something like equal terms and not find it necessary to go into too much explanatory detail.
4. Do not expect the interviewed to volunteer information. Take the lead in conducting the interview; that is your job.
5. Frame in advance some pertinent questions that get at the heart of the subject.
6. Do only as much talking as is necessary to keep your subject talking.
7. Keep some leading questions in reserve with which to bring the interview back to its subject matter if the interviewed becomes vague in his discussion.

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<sup>10</sup> H. M. Swetland, *Industrial Publishing*, Business Publishers, Inc., 1923, p. 21.

8. Observe the courtesies of your position—don't argue—don't contradict—don't insist. Discuss the points that require some comment in order to bring out their meaning or to bring out the other side of the question or to keep the interview moving.
9. If the information quoted is of an important character or involves many statistical references, figures, mathematical formulas, or other exact statements requiring careful checking up, it is generally best to submit the interview for approval before publishing it.

**Checking the Field Force.**—Checking on the work of the field force has been mentioned in connection with the writing of instructions. This is a part of their general supervision which is so important that it can well be given special attention. Every call should be accurately identified, and a reasonable sample of each man's work spot-checked in the field.

Interviewers should be informed before they begin work that call-backs will be made, and should be informed of the results of these call-backs regularly enough so that they know they are being watched. By checking at unexpected intervals, one can make sure that the job is being well done with a very few calls.

In addition to this, a supervisor should go over each report with the interviewer when the work is turned in. Since each return should be carefully edited before tabulation, this step adds little extra work, and will do much to improve the quality of the investigation.

There are five methods of checking the work of field workers in common use.<sup>11</sup> These are:

1. Personal call-backs by supervisors.
2. Postcard checks.
3. Stability curves.
4. Analysis of consistency.
5. Use of battery of questions.

The first two procedures may be considered direct checks, and the latter three indirect, as they rely on analysis of the completed questionnaires themselves.

The use of a postcard checking questionnaire is an effective method of determining the quality of field work. The replies received must be judged with caution, as they are subject to considerable error resulting from a tendency on the part of some respondents

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<sup>11</sup> For a discussion of the first three procedures, see George Fisk, "Methods of Handling Certain Field Research Problems," *Journal of Marketing*, January, 1948, pp. 382-384.

to protect the interviewer and the failure of some of the mailed cards to reach the right persons. However, the cards received will usually provide a satisfactory indication of the relative accuracy of the work of different interviewers and will disclose cases of gross error.

The following is an example of an authenticating letter :

Our representative has told us of her recent visit with you and we take this opportunity to thank you for your cooperation in testing the two new hair tonics for us.

As our interviewer told you, she will call on you again in a few days to ask for your opinion of these two new hair tonics.

In the meantime, we would like to get some advance information and will greatly appreciate it if you will supply the information requested on the enclosed card. Please check it at your early convenience and drop it in the mail. It is stamped and self-addressed.

Thank you for your assistance.

Yours very truly,  
BLANK RESEARCH COMPANY.

A postcard was enclosed, with the following copy :

BLANK RESEARCH COMPANY  
12 Main Street  
Middleville.

Gentlemen:

I am now using \_\_\_\_\_ brand of shaving soap.

Before starting to use the test hair tonics supplied by your interviewer, I had been using \_\_\_\_\_ brand.

Yours very truly,

Name \_\_\_\_\_

Address \_\_\_\_\_

In this postcard check, the shaving soap was a product in which the research organization could naturally have been interested. This device made it apparent that new information was being requested. The second question provides a check on a report from the interview. The percentage of cards returned for each interviewer is an additional basic clue to the care with which the field work is being done.

The stability-curve check is applied by tabulating answers to selected questions as reported by an individual interviewer. Questionnaires are tabulated in a sequence order, usually in the order of the various days during which the interviewer worked. The percentage of "yes" answers should stabilize according to a regular

pattern. If they are too consistent during the early interviewing period, it is concluded that the interviewer is not reporting accurately. The findings of different investigators are compared. If those of an individual are too far out of line from the general result, the work is challenged and investigated further.

The analysis of consistency is based on the examination of individual questionnaires by a skilled editor. When field work has been done dishonestly or is grossly inaccurate, the reports are bound to show definite evidence through answers to certain parts which are inconsistent with answers to others. An excessive number of "no" answers or "don't know" answers is also suspect. Frequently a too standardized pattern of answers, for example, in the use of certain words, will give away the interviewer. By examining questionnaires for consistency, a skilled editor can often detect bad field work.

The use of a battery of questions involves deliberately constructing a questionnaire so as to provide a multiple check on the accuracy of certain answers. By asking a sequence of questions in different form, or by reintroducing a given subject later in the questionnaire, also in different form, it is possible to check on the accuracy of individual answers and obtain the true facts regarding the respondent's report or opinion.

#### General Policies to Improve the Quality of Field Work.—

The discussion up to this point has emphasized specific procedures which will lead to the highest quality of field work. Extreme care in the supervision, selection, training, instruction, and checking of interviewers is necessary. In addition, the general policies of the research organization must be such as to encourage good workmanship in the field. With few exceptions interviewers are honest and willing. Much of the poor work encountered is the direct result of policies which force a depreciation in the quality of their work. Bennett suggests that concern over the accuracy and integrity of interviewers will disappear when the headquarters organization

Pays interviewers well, pays them promptly and pays them (as he does) for preparation time.

Ceases to set up unreasonable daily performance quotas.

Stops insisting on impossible or impractical cross-section breakdowns under conditions with which it is sometimes unfamiliar.

Stops demanding deadlines that preclude careful handling and then, at the conclusion of the assignment, neither acknowledging receipt of reports nor informing interviewers as to what simple or serious errors crept into their work.<sup>12</sup>

<sup>12</sup> See "Cheater Problem," *Tide*, September 6, 1946, p. 38.

**Gathering Data by Mail Questionnaires.**—The essential problem in the mailing of questionnaires is to select lists which will yield an adequate and representative sample. Very often the lists most readily available and those which will yield the highest returns at the lowest cost are the poorest ones from the point of view of the accuracy and reliability of the results.

The most common sources and types of mailing lists for questionnaire work follow.

1. *City Directories.* Where it is desired to obtain a cross-section of all walks of life, the city directory often offers the best source. It can be used only when the study is restricted to cities large enough to have rather frequent issues of directories. Because of inaccuracies and the number of "dead" names, it is often not advisable to use this source.

2. *Telephone Books.* If the study will not suffer from the selective nature of the telephone list (for it covers only a limited number of families, restricted to the upper strata), these offer a highly accurate and "live" source. One difficulty is the lack of complete information regarding the marital status of persons. Another is that the commercial phones must be eliminated. The classified sections offer valuable lists for dealers and select business and professional groups.

3. *Rating Books.* Dun and Bradstreet's credit-rating books offer good lists for business firms. The ratings facilitate selection.

4. *Trade Directories.* In many business lines, where a particular industry is to be covered, the trade directories give useful lists.

5. *City and County Records.* Many governmental records which are open to the public provide good lists. These are particularly valuable where selected groups are desired. Chief among these types are city and county tax lists, automobile registration lists, license and permit lists, school lists, corporation lists, and vital statistics lists.

6. *Organization Lists.* For certain select groups organization lists may be of value. Commercial, civic, golf club, professional, fraternal, and religious groups are typical of the lists which may be obtained.

7. *Mailing-List Dealers and Addressing Companies.* There are several organizations, such as R. L. Polk & Co. and the Buckley-Dement Co., which make a business of maintaining mailing lists. These are classified by various types, on such bases as occupation, income, or club membership. If a large mailing is to be made, it is often more economical to employ the lists or complete services of

these organizations. Prices of these lists vary from time to time, but usually names may be obtained at from \$2 to \$20 per thousand, depending on the degree to which they are selective.

8. *The Company's Own Records.* Customer and dealer records may be used to obtain lists where the specific survey is concerned only with the restricted groups which such lists represent.

In view of the bias introduced into mail questionnaire research by nonresponses, a second problem is that of maximizing returns. While there is no evidence that increasing the percentage of replies to the highest possible level will significantly reduce this bias, it is generally considered desirable to do so. In a recent controlled test of questionnaire mailings, the following devices were found to be most effective in increasing returns:<sup>13</sup>

1. Covering letters containing a full explanation of the survey.
2. Use of air mail and special delivery letters.
3. Several follow-up letters.
4. Covering several different subjects in the survey.

**Handling the Observational Work.**—The most important consideration to bear in mind in connection with observational work is that the human factor is still present. The best way in which to appreciate the difficulties which beset the observer is to note the care with which checks are established in the laboratories of the physical sciences. Here, in spite of the objective manner in which the work is controlled, errors on account of the failure of the observer properly to record data, such as temperatures, are constantly encountered.

The general principles outlined in connection with the earlier discussion of the field investigator apply in setting up observational work. Making sure that the observer is properly selected, instructed, trained, and checked in his work is just as important in observational work as in survey work.

Making observations appears to be a simple matter. Most people, however, are poor observers. If one makes it a point to notice the things which he has failed to observe previously in walking to his office, or during a meal, he can quickly appreciate some of the difficulties involved in making penetrating observations. The weakness of the average person in observing conditions about him is further shown by the popularity of parlor games based upon this frailty. Casual looking does not represent the scientific use of the observa-

<sup>13</sup> John A. Clausen and Robert N. Ford, "Controlling Bias in Mail Questionnaires," *Journal of the American Statistical Association*, December, 1947.



tional method. The facts must be seen and recorded correctly if the work is to be scientific.

A few specific rules which are especially important to the successful application of the observational technique follow.

1. *Be sure conditions are favorable to accurate observations.* If one is making observations in a retail store, there are many unusual conditions, such as weather, which may make it impossible to obtain the type of information required for the study. The same is true in making observations in a home. The observer must constantly be on his guard against circumstances which distort conditions or actions which he is attempting to watch. Even more important, the condition of the observer may make it impossible to obtain accurate observations. If a person is tired, in a careless mood, or has poor eyesight, he is not in a position to make good observations.

2. *Assume an open mental attitude.* The observer must, of course, be free from bias and prejudice in order to make accurate observations. As one notices the results of the first observations made, he begins to form an opinion of the findings of the study. As this opinion grows, he may find that his recordings are becoming very similar, as a result of a prejudice based upon what he has learned from earlier observations. The elimination of such bias is in part a problem of checking the observer and in part a problem of self-discipline by the observer.<sup>14</sup>

3. *Observe one thing at a time.* This point has been previously mentioned in connection with the problem of preparing forms for observations. In observational work it is especially important that the attention of the observer be concentrated on only one type of observation at a time, wherever possible. If it is necessary to make several different types of observation, it will be found that errors will rapidly creep into the study. The observational field work should therefore be planned so that investigators observe only one type of item during a given time period.

4. *Obtain all essential facts.* While the observer must concentrate his attention upon one or a very few types of specific observations, it is most important that he be alert to record all conditions which may have an effect upon the phenomenon being studied. Every fact having a bearing upon the central problem of the analysis must be carefully noted. A whole series of observations may

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<sup>14</sup> The tendency for reports from field investigators to become stereotyped is discussed in F. C. Wheeler, *et al.*, *The Technique of Marketing Research*, New York, McGraw-Hill Book Co., Inc., 1937, p. 89. The remedy suggested—using a large number of interviewers—overlooks the fact that this would often lead to using a poorer quality of interviewer.

be entirely thrown out because the observer failed to note some general condition, such as the type of store in which observations are being made, or special display features, traffic, or other external conditions.

5. *Record specific observations immediately.* One should never attempt to make a series of observations and then record a generalization. Provision must be made on the forms for easy recording of each individual observation as it is made, and the observer must be carefully checked to make sure that he is following the instructions to record immediately.

**Handling Experiments.**—Difficulties of applying the experimental technique in the social field point to the need for very careful supervision of marketing experiments. One must bear in mind above all else the essential requirement of experimental work, namely, that all conditions and variables aside from the one being measured must be properly controlled. It is not good scientific judgment to rush into experiments when it is impossible to control them adequately. The theoretical advantages of the method can be more than offset by the errors introduced by uncontrolled marketing conditions.

Some of the points which must be watched in marketing experiments follow.

**SELECTION OF THE MARKETS.**—In view of the cost of conducting marketing experiments, they are usually made in a small number of markets, often from only two to five. Where a sales and advertising campaign must be conducted to set up the experiment, the cost is so great as to necessitate confining the operation to only a few cities. Even if twelve or twenty cities are employed, one can immediately see the danger of applying the results of test work to the country as a whole.

Efforts to find a market which is representative of the entire United States have been frequently made. But there is no such thing as a "typical" or "average" city. Every market is different from every other market. Only by careful selection of a group of markets, which together provide most of the conditions which will be encountered in a large number of other markets, can an experiment be successfully conducted. Having selected a representative group of cities, the analyst must be careful to keep in mind their characteristics, such as size and economic structure, and notice the conditions present in the rest of the country which are not reflected in the test markets. New York City, rural areas, and the "Old

South" are examples of markets which are not usually paralleled in a selected list of test markets.

The problem of selecting test markets is, of course, a problem of statistical sampling. All the principles of sampling, especially those relating to determining the nature of the universe, may be invoked to insure the selection of the right markets.<sup>15</sup>

**LENGTH OF TIME.**—One of the most important considerations in connection with the handling of experimental studies is to allow ample time for sufficiently extensive tests. One should allow at least two months, and sometimes even a longer period, for a controlled experiment.

One common error, caused by the desire to obtain results quickly, is to rotate advertisements or other marketing strategies being tested between markets and then to credit sales to them before adequate time has been allowed for the preceding activities to produce their total effect. Some researchers, for example, will insert a single advertisement in a newspaper, and then check sales five days to one week later, crediting all the sales in this period to that advertisement. A second advertisement is then inserted, and the sales immediately following the insertion of this second advertisement are credited to it, without an allowance being made for the influence of preceding advertisements. It is very important to allow a breathing spell between individual advertisements or campaigns so that there is no confusion in the proper assignment of sales to the advertising responsible for creating them. Allowing adequate time also helps to even out minor disturbances caused by such unusual factors as changes in weather and special retail sales drives.

An example from a company which tested different types of selling displays may be cited to show the necessity for allowing plenty of time in experimental studies. Experimental displays were installed in fifty stores in one market for a period of one year. In the test, all information which might have a bearing upon the result of the experiment—sales volume, the general movement of business conditions, sales by competitors, and many incidental facts—was obtained. After the conclusions from the first year of experiment were drawn, 500 displays were installed and tested in another market for a period of six months. The experiment was, therefore, conducted for a year and a half before final conclusions were drawn. Marketing experiments need not usually take such a long time as this. The example is of a special case which warranted a long period.

<sup>15</sup> For a list of test markets selected by a group of marketing experts, see "Sales and Advertising Experts Pick the Best Test Markets of the Country in 3 Population Groups," *Sales Management*, September 1, 1947.

**EXTERNAL AND INTERNAL CONTROLS.**—Usually, in conducting experiments, it is considered desirable to set up external controls which provide a “normal” standard against which to interpret the results of the test. In a copy test, for example, if advertisements are tested in four markets, and sales data are gathered only for those four markets, the only evidence obtained is of the relative strength of the advertisements, with no external evidence indicating the general value of the campaigns. To provide the latter, control markets, in which no advertising is run, are usually set up. The sales in these control markets are then taken as “normal” sales, without advertising, and used as a basis for evaluating the productivity of the advertising which has run in the test cities.

Two types of controls are commonly used. These are control markets, described in the preceding paragraph, or control periods before and after the experiments are made. Neither of these is entirely satisfactory. The use of control cities, often limited to one or two, is particularly open to question. There are so many conditions which cause sales to fluctuate in an individual market for a short period of time that the sales in one or two control cities are usually far from “normal.” Unusual conditions may also be encountered in a short control period preceding the experiments in the test markets. The use of control periods after experiments is, of course, questionable because it is often difficult to determine when the effect of the experiments conducted has dissipated itself. Temporary activities on the part of important retailers, wholesalers, the manufacturer’s sales force, or competitors in control markets or during control periods have often influenced sales more than the activity being tested in a marketing experiment.

In view of the difficulties of obtaining “normal” markets or “normal” sales periods for purposes of external control, it is often far more scientific to use internal controls, that is, sales data obtained in the test markets during the period of the test. Sales of other products similar to the one for which the experiments are conducted or of competing brands are examples. The conditions affecting the sales of selected products or of competing brands, during the experiment, usually parallel the conditions (other than the factor being tested) which affect the sale of the product studied closely. Weather, business conditions, and other disturbing elements are the same in the test markets during the test, but may vary at other times or places.

**ALLOWING VARIABLES TO OFFSET ONE ANOTHER.**—It is impossible to control the many variables encountered mechanically, as the chemist controls conditions in the laboratory. It is also very diffi-

cult to establish external controls, as is shown in the preceding discussion. The researcher must, therefore, rely largely on conducting his experiments so that the uncontrollable elements may offset one another. When these other influences are identified as far as possible, the remaining problem is to carry the experiments through in such a manner that the other conditions themselves have varied so as to offset each other. The rotation of tests between markets is designed to accomplish this. Weather will offset itself in time. The influence of special advertising drives may be offset by continuing through periods of little advertising. Seasonal influences are offset by repeating experiments. The effect of the type of store is offset by repeating in other types. The conditions under which the experiments are conducted should be altered until all external variables have offset themselves as far as possible.

RECORDS OF VARIABLES.—In any experiment there will always remain some variables which cannot be controlled and which do not offset one another. In order that they will not ruin the experiment, careful observation of all significant conditions must be made. If weather conditions can seriously affect the experiment, they should be recorded. Special sales efforts or advertising campaigns by competitors should be noted. As no mechanical means of correcting the results of marketing experiments for these remaining variables are available, the problem of estimating the remaining influence of these other factors is one of interpretation. Keeping accurate records during the gathering of the experimental data is required to provide the basis for this interpretation.

SPECIAL DEVICES.—A great deal of ingenuity can be exercised in the gathering of marketing data. In addition to the standard recording forms, such as questionnaires and other forms on which an observer records data, the use of mechanical devices is rapidly increasing. Cameras, motion pictures, and various tape or wire recording devices are being employed. Machines for recording "yes" or "no," favorable or unfavorable reactions, are now employed extensively, particularly in opinion and radio research. The General Electric Company in 1946 introduced a new machine which automatically records group responses to questions or other stimuli for up to 120 respondents. One of the features of this machine is that it registers degrees of favor or disfavor on a scale from 0 to 100.

While this chapter has placed emphasis on the general principles involved in collecting marketing data, the researcher should always investigate new means of improving this operation.

## CHAPTER 23

### TABULATION AND ANALYSIS

In the process of tabulation and analysis, the field reports are processed in order to arrive at as meaningful statistical conclusions as possible. The danger of taking raw data as they are received from the field, mechanically counting them, and drawing the obvious generalizations, such as percentages and crude averages, can scarcely be overestimated. Often studies, undertaken with high hopes, have resulted in merely a series of meaningless generalizations. Of course, the difficulty is often the result of faulty handling of preceding stages, but frequently much of the usefulness of a study is lost through inadequate tabulation and analysis.

To insure proper tabulation and analysis, four separate operations should be carefully followed:

1. Editing the data.
2. Testing the sample.
3. Tabulating the data.
4. Drawing statistical conclusions.

#### Editing Data

The purpose of editing the questionnaires or schedules used in the field investigation is twofold: to eliminate errors in the data, and to prepare the data for tabulation.

Separate editings are not made to fulfill each of these purposes. It is, however, a good plan to have both a field edit and a central office edit of each report. The field editing is done by the supervisor, preferably in the presence of the investigator who obtained the information. This field editing is limited to fulfilling the first function of editing, namely, making direct changes on the returns to eliminate all possible errors. Field editing is, of course, not possible in the case of mail questionnaires.

A separate central office edit should be made after the reports are received from the field. A person who has had special experience in this type of work may be employed. His duties are to catch errors

overlooked in the field editing and to prepare the data for later tabulation.

If the number of interviews is not too large, it is desirable to have one person do all of the central office editing, as this will tend to insure more standardized work. Usually, however, it is necessary to have a group of people editing the individual schedules. In this case it is especially important that a set of specific instructions for editing the schedules be drawn up as soon as possible and posted where it is readily accessible to all persons engaged in editing. These instructions must be drawn separately for each job because special problems will always be encountered, and if the instructions are stated in specific terms, the editing will proceed more satisfactorily. These rules should be drawn jointly by the person in charge of the research and the individual who is to be in charge of the tabulation which follows. The two persons should go over a representative group of questionnaires, making tentative editing changes on the basis of general principles to familiarize themselves thoroughly with the type of problem to be encountered.

**Special Qualifications of an Editor.**—It is most important that the editing of field reports be entrusted to experienced and highly qualified individuals, for the editors must exercise important judgments. A properly qualified editor should be:

- (a) *Experienced in field work.* Editing must always be assigned to people who have had considerable experience in field interviewing, never to an inexperienced or temporary clerk.
- (b) *Familiar with the subject.* The editor must be familiar with the subject of the investigation. Although this type of work is closely supervised, the success of the investigation will depend to a great extent on the editor to whom it is assigned. The editor should know the possible range of answers.
- (c) *Conservative.* The editor must not be too ready to change or revise answers which seem extreme, but which *may be possible*. Most answers must be accepted as correct.
- (d) *Observant.* Nothing should escape the editor's notice. He may find a great deal that is significant in answers to specific questions or in comments which supplement or clarify answers.
- (e) *Alert to supplementary statements.* The editor must study carefully any notes penned on the questionnaires, for these may contain very significant statements. Whenever such statements appear, the editor must record them for the use of people interpreting the final results of the investigation.

**Rules for Editing.**—In editing field reports one should not make erasures or destroy the original data received from the field. Editing marks and changes should be made in a colored pencil or colored ink which is adopted as standard for this purpose by the organization. It is then possible to check the work of the editors, a step which is sometimes necessary, and the original data are available for later reference.

While each research project raises special problems in the editing of the data, certain conditions arise so frequently that it is possible

Appliance	Now in Use				Formerly Used			
	Type	Brand	Year Bought	Owned or Furnished	Type	Brand	Year Bought	Owned or Furnished
Range	Elec. <u>✓</u>	<u>Hotpoint</u>	<u>X</u> (1945)	<u>Owned</u>	Elec. <u>—</u>	<u>Don't</u> (D.K.)	<u>Know-Too</u> (D.K.)	<u>Engl/Apo</u> (D.K.)
	Gas <u>X</u>				Gas <u>X</u>			
Washer	Elec. <u>X</u>	<u>Easy</u>	<u>X</u> (1944)	<u>Owned</u>	Elec. <u>—</u>	<u>None</u>	<u>None</u>	<u>None</u>
	Gas <u>—</u>				Gas <u>—</u>			
Ironer	Elec. <u>—</u>	<u>None</u>	<u>None</u>	<u>None</u>	Elec. <u>—</u>	<u>None</u>	<u>None</u>	<u>None</u>
	Gas <u>—</u>				Gas <u>—</u>			
Refrigerator	Elec. <u>X</u>	<u>Frigidaire</u>	<u>6/21/46</u> (1947)	<u>Owned</u>	Elec. <u>—</u>	<u>D.K.</u>	<u>D.K.</u>	<u>Owned</u>
	Gas <u>—</u>				Gas <u>—</u>			
	Ice <u>—</u>				Ice <u>X</u>		<u>(very old)</u>	

Figure 32. A Section from an Edited Questionnaire

The encircled information indicates the editor's corrections, which are usually made in colored pencil. Note that the editing corrects errors and prepares the questionnaire for tabulation.

to adopt general standardized practices to be used as a basis for preparing the editing instructions for an individual study. The rules which are explained below cover the most common requirements for editing.

**Rule 1.** *The returns should be examined by individual investigators and markets.*

An important phase of editing is to scrutinize the individual returns obtained by each investigator to appraise the care with which



the work was done. The same sort of general comparison should be made for individual markets included in the survey. As a result of such comparisons, it may be found necessary to throw out all the work of some investigators, and possibly to carry on additional field work within an individual market.

Such necessities are usually indicated by the general appearance of the questionnaires or the inconsistency of one group related to the general averages observed in the others. For example, it was found in one study that about 25 per cent of the families interviewed were using a certain product. Examination of the reports from one investigator showed, however, that almost every family she interviewed used the commodity. It was immediately apparent that the investigator was in some way so completely biasing the interviews that it was necessary to reject all of her work.

This general checking of the returns of the individual investigators and cities also is an important element in the general supervision of field work. It gives the project supervisor an indication of the general quality of work which is being done throughout the organization and a basis on which specific criticism may be made.

Questionnaires which are based on interviews with persons who should not have been included in the study, such as children and servants, are also rejected at this point.

*Rule 2. Inconsistent answers should be rejected or changed.*

It will frequently be found that the answers to two different questions are inconsistent. The following is an example:

5. What kind of program do you like best? "Symphony Orchestra."
6. Indicate in order of preference three of the following classifications of programs:
  - 1 Dance orchestra
  - 2 Symphony orchestra
  - 3 Drama
  - 4 Children's program
  - 5 Grand opera
  - 6 Classical music

The answers to these two questions are obviously inconsistent, as "symphony orchestra" should have been given the first rank in the sixth question, in view of the answer to the fifth one.

In case of such an inconsistent error, the editor must determine whether the real intent of the respondent is clear. If the editor is certain of the true intent, he then changes the inconsistent answer to make it consistent with the answer to the other. If the intention

of the respondent is not perfectly clear, however, the answers to both questions should be deleted, as in the case shown above.

An example of an inconsistent answer which may be corrected by changing the one obviously incorrect is the following:

3. What brand of radio do you own? "Philco DX."
8. How much did you pay for your radio? "\$300."

When the model of the radio is given in answer to the first question and the editor knows that the price of this radio is \$110, the answer to the second question can safely be changed to that figure.

*Rule 3. Incomplete answers should be filled in where possible.*

Frequently the answer to a question will be omitted, in whole or in part, yet the editor can fill in the correct answer on the basis of other information obtained from the schedule. The following is an example:

7. What radio programs can you associate with advertised products? "Bob Hope with Swan."
12. What radio programs advertise soap? "Ma Perkins for Oxydol."

It is obvious that the respondent associates Ma Perkins with Oxydol soap, and this should be included in the answer to question 7. The answers, of course, do not show the entire range of association, but they do clearly show that this one should have been included.

*Rule 4. Obviously inaccurate answers should be rejected.*

In examining any given set of questionnaires it is comparatively easy, after one has had experience in editing, to locate answers which are extremely doubtful and should, therefore, be discarded. An answer may be rejected because it is clear that it has been given carelessly or unintelligently. A certain number of "jokers" will be found in the answers on some of the questionnaires, and should be eliminated.

*Rule 5. Answers involving units of measurement should be standardized.*

The application of this rule is an important aspect of the preparation of the questionnaires for tabulation. Wherever units of measurement are involved in the answer to questions, such as periods of time, the answers will be given in varying units on different questionnaires, even if the questionnaire does specify one particular form. An example is shown below.

12. How long have you used the product? (In months) "2½ years."

The tabulation will be greatly expedited if all answers of this type are reduced to one standardized unit.

*Rule 6. Questions to be tabulated by classes should be converted to the proper classification.*

The answers to questions are often tabulated on the basis of frequency distributions. An example is the following:

4. How long have you used this product? "13 months."

In such a case it is entirely too cumbersome to make a separate tabulation for every possible answer. The analyst therefore usually sets up class intervals, such as "less than six months," "six months, but under one year," "one year, but under two years." The class intervals should be accurately defined and mutually exclusive. Persons making the tabulation cannot be relied upon to convert a specific answer to the proper classification. Furthermore, even though the tabulators would not make mistakes in so doing, time will be saved by having the classification indicated in the editing. In the example cited, therefore, the editor should write in "one year."

*Rule 7. General answers should be properly classified.*

Many questions will obtain a wide variety of answers which call for proper classification. Types commonly encountered are opinion answers, occupation answers, and brand data.

In such cases it is necessary to indicate the proper group in which the individual answer should be tabulated. An example of an opinion question calling for such treatment is the following:

3. Why do you use this product? "Mild Tasting."

In answer to such a question the respondent may express the general attribute "flavor" in many different ways. It is necessary to decide whether certain variations in the expression are significant for the particular analysis at hand. Individual answers should then be assigned to those groups by the editor. In the example cited it might be valuable to tabulate separately answers which represent special variations of one general quality. On the other hand, this answer may be of most value as a reflection of the importance of flavor as opposed to other factors, such as price. The interpretation of answers of this type cannot be left to the tabulators, for it will be found that each one will have his own notions as to the proper classification of different answers.

Any one occupation may be described in many different ways. Even though occupational classes are listed on the questionnaire, a certain number of persons will give a detailed description of their occupation rather than a direct answer. In such cases the editor must decide the classification into which the report falls.

Where questions relating to brands or types of products are asked, such a large number of different ones are usually reported that it is necessary to set up general classifications, such as "other brands," "other liquids," and "other powders." If such classifications are to be used in the tabulation, the editor should indicate the proper classifications for all brands which are not tabulated separately. This will make for greater accuracy in tabulation and eliminate a great amount of waste effort which is involved where each individual brand is named. In some studies, for example, it would be necessary to tabulate over 150 brands, if each were listed separately.

### Testing the Validity of the Sample (Validation)

In Chapter 21 it was shown that an adequate sample has two characteristics: *reliability* and *proportionality*. In planning a sample every effort is made to obtain both of these characteristics. It is, of course, impossible to forecast in advance of the field work that the sample obtained will actually have both qualities. Therefore, before proceeding with the actual tabulation it is necessary to check the specific sample obtained from both points of view. Fortunately, scientific methods are available which make it possible to prove within a reasonable degree of certainty that a given sample has both of these characteristics.

**Testing for Reliability.**—The problem of reliability is simply that of making sure that enough cases are included in a sample to eliminate the possibility of distortion by being too small. There are several different methods which may be used to determine the reliability of a given sample. Some of the methods involve rather complicated statistical manipulations; others are short-cut methods which do not provide such exact results, but which may be quite satisfactory for a given purpose.

One fact should be kept clearly in mind. All methods for testing the reliability of the sample rest upon the same basic, logical assumption. This assumption is that the reliability of a sample is determined by its relative consistency or stability.

The terms "consistency" and "stability" mean simply that the addition of more cases or interviews will not significantly increase the accuracy of the conclusions. Suppose as a result of a study of a proposed change in the flavor of a product, after 500 calls have been made, it is found that 82.6 per cent of the interviewed prefer the new product. If one were to make 500 additional calls, and found that the percentage of people preferring the new form was approximately the same as that found in the first 500 calls, he would conclude that the first sample of 500 interviews possessed stability. The tests which are described in the following discussion represent merely mathematical and mechanical methods for determining for any given sample whether it is necessary to obtain additional cases. In short, does the sample as it stands possess consistency and stability? If so, it is reliable.

**The Cumulative Frequency Method.**—The simplest method of testing the reliability of a sample is by the calculation of cumulative frequencies. The procedure for testing a sample by this method may be described as follows.

1. *Arrange the data in random order.* In the case of a market survey, shuffle the questionnaires so that they are in chance order. Some persons give each return a serial number as it is received and keep them in this order for purposes of testing. This plan is unsatisfactory, however, as the order of receipt at the central office is not necessarily a chance order, because mail from certain geographic sections will always be received ahead of others. Where personal interviewers are used the returns are received by markets. If all the New York questionnaires are placed together, and are then followed by Des Moines, Pittsburgh, Atlanta, etc., they will not be arranged in chance order. Chance order is essential to the correct application of this short-cut test for reliability.

2. *Divide the data into separate groups.* The number of groups into which the data should be divided is flexible. If one has a total of 400 questionnaires he will ordinarily divide them into eight or ten groups. If he has 5,000 questionnaires, he might divide them into twenty-five or fifty groups. If the sample is relatively small, one must be satisfied with a comparatively small number of groups. The number of groups into which the questionnaires are divided has no theoretical bearing on the validity of the method, but the use of too large a number makes for unnecessary handling.

In determining the number to include within each group, it is usually more convenient if 100 questionnaires are in each class, as

this facilitates the calculation of the percentage. If there are not enough questionnaires to provide at least ten groups of 100 each, the number in each group should be reduced to 50, which is also a convenient number to employ in the calculation of percentages. With less than 500 questionnaires, however, it is best to divide them arbitrarily into ten groups.

It is not strictly necessary that each group contain exactly the same number of data, although the calculation of percentages is facilitated by the use of exactly equal groups. Likewise it is not necessary that all data be included in the groups to be tested, provided that those excluded are only a very small number and represent merely the last few which remain after all the reports required to complete the groups set up have been sorted.

Let us assume, for example, that we have 2,016 completed questionnaires. These might be divided into twenty groups of 100 each, or ten groups of 200 each. The remaining 16 questionnaires may be omitted from the test or added to one of the groups. Let us assume that the remaining 16 have been omitted from the test and that we have divided the questionnaires into ten groups of 200 each. We now have ten piles of schedules, distributed as follows:

Groups	Interview Numbers
1.....	1- 200
2.....	201- 400
3.....	401- 600
4.....	601- 800
5.....	801-1000
6.....	1001-1200
7.....	1201-1400
8.....	1401-1600
9.....	1601-1800
10.....	1801-2000

3. *Determine the bases on which the test is to be made.* It is necessary to select from a questionnaire or schedule reporting observations one or more items to be used for the test for reliability. If only one question is asked in a survey the sample must obviously be tested on this basis alone. However, most surveys ask several questions, and the analyst must decide which ones are to be used for purposes of the test. Theoretically one might test the reliability on every question included in the survey. This would be wasted energy, however, for one can readily select a few key questions which will provide an adequate basis for testing the entire job.

On the other hand, one should not assume that because the data passed the test for reliability on one question, the sample for the

entire study is satisfactory. Recall for a moment the discussion on the subject of the gross sample and subsamples. Each subsample, which represents a distinct minor universe, must be tested separately for reliability. The decision as to the bases on which the test is to be made is, therefore, determined by the number of different universes or samples represented in the data at hand. In the case of a survey one should carefully check the questionnaire to determine which questions represent different universes, and then make a separate reliability test for each universe.

For example, in one questionnaire the following questions were asked, among others:

1. Do you have a radio?
2. When did you or your family last listen to it?
22. What is the rental value of the home?

Every person who was interviewed in this study had an opportunity to give an affirmative or negative answer to the first question. Therefore, this question adequately reflects the gross sample taken in the study, and if it is tested for reliability, it establishes the fact that enough persons have been asked this question to determine the extent to which people own radios. This procedure could, therefore, be accepted as a basis for the first test for reliability, covering the gross sample.

In answer to the second question, however, it is obvious that only those people who answered "yes" to the first question have a chance to reply. They represent the minor universe covered in this question. Therefore, it is necessary to make a separate test, based upon the answers given to this question to determine whether the subsample is sufficiently reliable to draw conclusions as to the frequency with which radio owners use their radios.

Question 22 is a question designed to produce corollary data, which are bases for classification of answers obtained to other questions. Suppose the researcher intends to determine independently the frequency with which people living in homes with a rental value of less than \$25 listen to their radios. We are immediately confronted with a new universe, therefore a new subsample, which should be tested separately to make certain that we have enough families living in homes with a rental value of less than \$25 to warrant our drawing a conclusion regarding the habits of this group. The situation then calls for a separate test for the reliability of the sample on this point. In a lengthy questionnaire, such as the one from which the example has been taken (which contains 23 questions

with several parts to some), a very large number of subsamples may be involved.

It is of the utmost importance that the analyst guard against statements regarding the reliability of samples which purport to prove the accuracy of an investigation, but which are limited to tests for reliability covering only the gross sample. The discussion above should make it clear that significant subsamples should be tested separately, and must stand on their own feet so far as their reliability is concerned.

Let us assume for the illustration that we have decided to test the gross sample first on the basis of the answers to the question "Do you have a radio?"

4. *Prepare a table of cumulative frequencies.* The next step is to count the frequency with which the phenomenon being measured occurs, and to calculate the cumulative percentage of occurrence. The necessary data should then be inserted in a table like the one shown below.

TABLE 46

## RADIO SURVEY—TABLE OF CUMULATIVE FREQUENCIES

(1)	(2)	(3)	(4)	(5)
Group Number	Frequency of Occurrence	Cumulative Frequency of Occurrence	Cumulative No. of Cases	Cumulative % of Occurrence
1	138	138	200	69.0
2	163	301	400	75.3
3	189	490	600	81.7
4	150	640	800	80.0
5	165	805	1000	80.5
6	149	954	1200	79.5
7	158	1112	1400	79.4
8	185	1297	1600	81.1
9	141	1438	1800	80.0
10	159	1597	2000	79.9

In the first column the numbers identifying each of the groups of 200 questionnaires are inserted. The frequency with which any given answer occurs in each of these groups is inserted in column 2 as indicated. For the question "Do you have a radio?" this would be either the number of questionnaires in each group answering "yes" or the number answering "no." Wherever the question used for purposes of the test may be answered by "yes" or "no," the test may be applied in this manner.



It is important to notice in this connection that questions which do not provide for a "yes" or "no" answer may be used as a basis for the test for reliability. An example is the question "When did you or your family last listen to it?" In this case the answers may be divided into several groups, such as "today," "yesterday," "two days ago," "three days ago," or "four days ago." If such a question is used as the basis for the test, one simply selects arbitrarily the number of answers falling into one of the classifications, for example, the number answering "today," or a small group including both "today" and "yesterday."

In column 3, the cumulative totals from column 2 are inserted. The table shows, for example, that in the first four groups, 640 persons reported owning a radio.

In column 4 the total cumulative number of cases (in this instance the questionnaires) which are included in each group is inserted. Since there are 200 questionnaires in each group, the table shows that the cumulative total for the first six groups is 1,200 questionnaires.

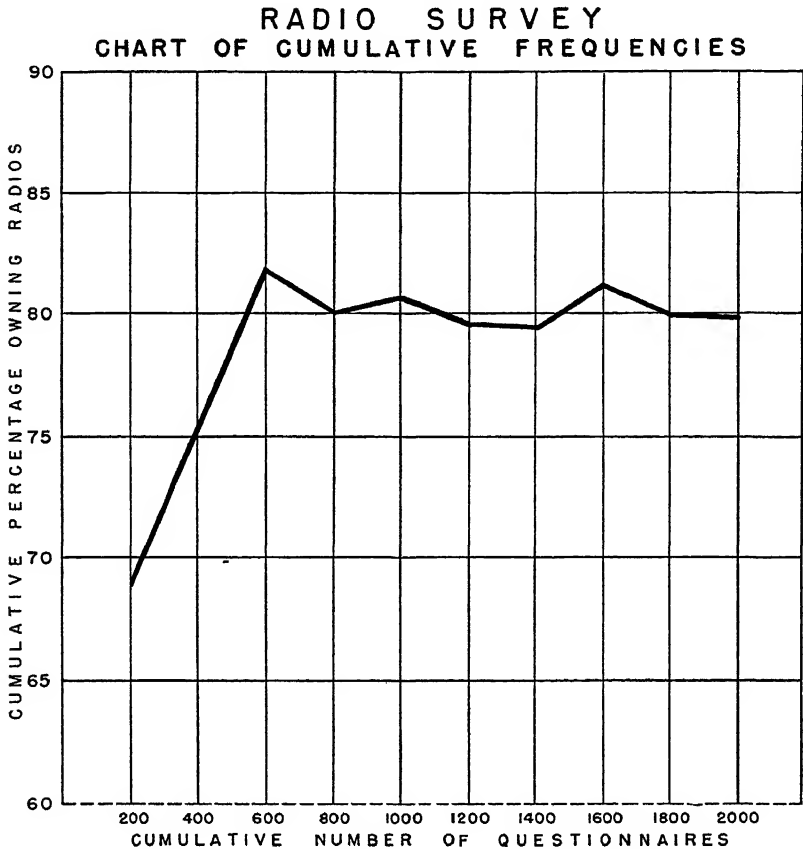
In column 5 the cumulative percentage of occurrence of the item being measured (radio ownership) is obtained by dividing column 3 by column 4.

5. *Chart the cumulative frequency.* The decision as to whether the sample is valid or not is based upon the stability or consistency of the cumulative percentage of occurrence as one progresses from the first to the last group. By an examination of the table shown above, it will be seen that in the first 200 questionnaires, 69.0 per cent of the families owned radios, and that this percentage increased rapidly to 75.3 per cent for the first 400 questionnaires and 81.7 per cent for the first 600 questionnaires. Running down the column, however, one notices that the cumulative percentage does not vary as each additional group of 200 is added nearly so much as it does toward the top of the column. By the time the sixth group, which represents 1,200 questionnaires, is included, it is found that 79.5 per cent of the families own radios. This does not vary greatly from that shown for the entire group of 2,000 questionnaires, which is 79.9 per cent. It will also be noticed that the fluctuation in this percentage from the sixth through the tenth group is not very great. On the basis of this consistency in the latter part of the cumulative percentages, one may decide that the sample is adequate.

It is usually helpful, however, to draw a simple line graph showing the cumulative percentage of occurrence. Examination of this chart makes the degree of stability obtained by the cumulation of

these individual segments clear. Noticing that the variation in the last half of the cumulation is only about 1 per cent, most researchers would readily assume that the sample is adequate.

In general, the amount of variation found in the last half of the cumulative frequencies (in this case groups 6-10), gives a very



**Figure 33. Chart of Cumulative Frequencies Used in Testing a Sample for Reliability**

(Based on data from Table 46, p. 527.)

rough approximation of the probable limits of the error within the sample.

This method of testing a sample for reliability is the most simple. It is not so accurate as statistical measurements of probable error, and gives no quantitative measure of the degree of reliability. It is, however, often accurate enough for most work. Its use depends to

a considerable extent on the experience of the researcher, which gives him a basis on which to exercise his judgment in determining whether the evidence is sufficient to warrant the acceptance of the sample.

**Calculation of the Probable Error of the Sample.**—A more accurate method of testing a sample for reliability is to calculate the probable error of any individual measurement, such as the mean, by the use of mathematical formulae. This is a more laborious process than analysis of cumulative frequencies, but it is sometimes warranted. Furthermore, it is not always necessary or practical to compute the measures antecedent to the computation of probable errors.

To explain the calculation of the probable error and other mathematical measurements of reliability is beyond the scope of this book.<sup>1</sup> However, after the sample has been tested for reliability by a short-cut method, one may readily approximate the limits of error which exist in the conclusions derived from it. For example, suppose that the data in the radio study have been found to be reliable by the use of cumulative frequencies, and that 79.9 per cent of the families interviewed own radios. By turning to the table which was shown on page 476, we find the column which shows a frequency of occurrence of 20 or 80. This is the closest figure to the actual percentage (79.9 per cent) found in the sample.

We now look in this column in the table for the figure which is closest to the total number of interviews involved, which in the example is 2,000. We find 1,082 interviews and 4,330 interviews as the two figures closest to the number actually in our sample. By running over to the left from the figure 1,082, we find that the practically certain limit is 2.0 per cent. By running over to the left from the total of 4,330, we find the figure 1.0 per cent. These figures indicate that it is almost certain that our conclusion that 79.9 per cent of the families owning radios contains an error of something less than 2 per cent. By interpolation it is possible to estimate from this table the specific limits of error, which in this case happen to be approximately 1.72 per cent. It is practically assured, then, that the percentage of the families owning radios is not less than 78.1 per cent nor more than 81.7 per cent.

**Testing for Proportionality.**—The principle of proportionality requires that each significant class or group must be represented in

<sup>1</sup> See any standard textbook on statistics for a detailed discussion of the calculation and meaning of the probable error of a sample. Suggested references are Frederick E. Croxton and Dudley J. Cowden, *Applied General Statistics*, New York, Prentice-Hall, Inc., 1941, and James G. Smith and Acheson J. Duncan, *Sampling Statistics and Application*, New York, McGraw-Hill Book Co. Inc., 1944.

the sample in the same proportion as it occurs in the total universe. In testing for proportionality, one must first go over the study to determine the classifications which have a significant bearing upon the conclusions of the study and which must, therefore, be checked for proportionality. The classifications which are usually most important from the point of view of proportionality are the following:

1. Economic groups.
2. Geographic groups.
3. City-size groups.
4. Users and nonusers of the commodity.
5. Age groups.
6. Income groups.

It is not always necessary to test every sample on all of these six points, nor do they always provide the most significant groups to be used in testing any given sample for proportionality. For example, in a study of the market for electrical refrigeration, the length of time that people have owned their present refrigerators may be extremely significant. Having the proper proportion of refrigerators of various ages in the sample represented would, therefore, be one of the most important problems in proportionality for this study.

The actual test for proportionality in a sample is very simple, provided data are readily available for the total universe involved. Suppose, for example, that one wishes to test a sample for proportionality of the distribution of people in different age groups. By turning to the U. S. Census he can find the percentage of people in each of these groups.

The analyst must first decide which age groups are significant from his point of view. Persons under twenty years of age, for example, may be eliminated entirely from the total universe and, therefore, need not be represented at all in the sample. In some cases the contrast between people from twenty to thirty-nine years of age, from forty to fifty-nine years of age, and from sixty years and over might be most important. In other cases it might be necessary to work with age groups broken down into classes under ten years of age, ten to nineteen years of age, twenty to twenty-nine, or thirty to thirty-nine. Having decided the classification which will be important from the point of view of proportionality, the analyst may now make a direct comparison between the sample and the total universe.

The table below shows such a comparison for a sample in which age distribution is important:

Age Group	Distribution of "Universe"	Distribution of Sample
Under 20.....	38.7%	25.2%
20-39.....	31.8	42.8
40-59.....	20.9	23.7
60 and over.....	8.6	8.3
Total.....	100.0%	100.0%

It is apparent from comparison of the sample with the total universe that too few cases in the youngest group and too many cases in the group from twenty to thirty-nine years of age are included in the sample. While there are a few too many in the age group from forty to fifty-nine, this variation probably is not wide enough to be significant. The difference for the group sixty years of age and over likewise is clearly not important.

A researcher must determine whether the variation shown is great enough to disturb his results. In the case cited above, he might compare the results of the tabulation on important points for the group under twenty with the results for the group from twenty to thirty-nine. In a study of brand preferences, for example, no important difference might be found in the preferences between these two groups. He would conclude, therefore, that while his example does not have strict proportionality, for his particular purposes this theoretical proportionality is not necessary.

If he concludes, however, that the lack of proportionality in the sample is significant, the sample must be corrected for proportionality in one of three ways. In the first place, he may gather additional data. In the example cited above, it would be necessary to obtain more interviews, particularly from people under twenty years of age. In the second place, he may discard some of his data. Providing that the sample is large enough, part of a group which is too large for proportionality may be omitted from the tabulation. This solution is not usually practical, however, and must be watched very carefully. It is, of course, of the utmost importance that if parts of the questionnaires are discarded, they be taken in an absolutely random fashion, lest the results be distorted. A third alternative is to adjust the sample for proportionality.

**Building the Sample for Proportionality.**—The following illustration shows how one sample is verified for proportionality and then built up, by additional interviews with special groups which were low in the early samplings:

This meant . . . a schedule that went as follows: (1) assign quotas for the standard-of-living groups; (2) make 2,000 interviews; (3) pause, check

against known economic data, revise the standard-of-living quotas; (4) make 4,000 more interviews; (5) pause, check the total 6,000, revise again; (6) make the final 2,000 interviews.

What happened was that after 2,000 interviews we found ourselves somewhat high in relation to *all* our check-facts; home ownership, electricity, gas, telephone, radio, automobile. It was necessary at that point to revise downward the economic level quotas, and to send each interviewer special instructions: When we say "Class E," we mean people all the way down to shantytown; when we say "farm," we mean farm: get not only those on the paved roads, but also those back in the hills.

At the end of 6,000 interviews, the figures were closer—still a bit too high on some items, but a little too *low* on others. This gave us a chance to refine our economic sampling further than we had expected or hoped, so that not only the total, but also each section of the country was more in line.

. . . Each batch of interviews is checked, and it has, several times, been necessary to send special instructions to interviewers to remind them to get out into the back country farming sections and down into the poorest urban sections.<sup>2</sup>

**Adjustment for Proportionality.**—This procedure is very frequently practicable and is generally preferred to obtaining additional data, since the latter involves some extra time and expenditure. It is also preferable to the rejection of some of the data, as this procedure is dangerous. The adjustment for proportionality is accomplished by taking the conclusions obtained in the tabulation and weighting them by the true proportions which exist in the total universe. An example is shown in Table 47.

In the first column of the table, the various classifications for which proportionality is desired are inserted by age groups. In the same study, one might set up similar tables for economic groups, city-size groups, or any other base for proportionality. The data are tabulated, and separate averages struck for each of the groups shown in column 1. The example is taken from an analysis of the consumption of milk. In those questionnaires covering people under twenty years of age, it was found that the average consumption in pounds for the period studied was 300. This figure is inserted in column 2. The averages for each of the other groups are inserted in this same column.

The percentages of each age group existing in the total universe are next inserted in column 3. In this case the percentages were obtained from the U. S. Census.

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<sup>2</sup> *Continuing Study of Magazine Audiences*, Magazine Audience Group, Report No. 5, October, 1941, p. 42.

TABLE 47

## ADJUSTMENT FOR PROPORTIONALITY

Milk Consumption by Age Groups

(1)	(2)	(3)	(4)
Age Group	Milk Consumption in Pounds	% in Each Age Group in Universe	Weighted Consumption
Under 20.....	300	38.7	116.10
20-39.....	180	31.8	57.24
40-59.....	160	20.9	33.44
60 and over.....	70	8.6	6.02
Total.....		100.0	212.80

Column 4 is the product of columns 2 and 3. While whole percentages are shown in column 3, column 4 shows the results of multiplying column 2 by the proper mathematical expression of the percentages in column 3. For example, the mathematical expression of the whole percentage (38.7) is .387. This figure is multiplied by the figure in column 2, which in this case is 300. Three decimals are pointed off in the product, giving the sum 116.10. This computation is made separately for each of the groups and the figures inserted in column 4 as shown. The sum of column 4 (212.80) is the correct per capita milk consumption after the data obtained in the study have been adjusted for proportionality.

The milk consumption figure which would have been arrived at by a straight tabulation of the returns in the sample would have been 196.47 pounds. The difference between this figure and the true figure shown in the table above is the amount of error existing in the sample because of its lack of proportionality.

**Checking Nonresponses.**—A limited sampling of call-backs on individuals who were approached but not reported on should be included as part of the verification of the sample. The problem of testing a sample and adjusting for proportionality is particularly critical in the case of mail surveys. Because of the general bias in the sample, it is recommended that a mail survey be checked by a combination of call-backs through personal interviews. In personal interview surveys themselves, there is always the problem of nonresponses. The data showing the proportion of completed interviews to total trials should be studied carefully by various market segments. Formulae have been developed for the calculation of the

effect of nonresponses and adjustment of the sample to take them into account.<sup>3</sup>

**Extension of the Sample.**—Sometimes it is necessary to make estimates regarding portions of the population which lie outside the limits of the sample at hand. This situation may arise either because of a restriction placed on the universe to be sampled in the planning stages or because, for practical reasons, it has been found impossible to cover certain groups adequately. For example, census takers get deeper into backwoods sections and cover the population much more thoroughly than marketing researchers do. They also get more accurate factual information regarding certain types of households.

Useful estimates regarding the characteristics of unsampled segments of the population on subjects studied in marketing research are now made by a process of multiple correlation. A current example is the studies conducted by the Magazine Audience Group for *Life* magazine. By careful testing and validation of the sample for the segments known to have been covered and by analysis of the variance by certain basic characteristics, predictions for many units in the segments sampled have been made and then verified. Estimating equations derived by correlation are then applied to the unsampled segments, on the assumption that there are no unknown variables, peculiar to these groups, which would significantly distort the estimates.

Extensions of the sample on this basis, it is predicted, will be useful in many fields. Examples are radio listening, studies of distribution, advertising coverage, and magazine audiences. This tool may be employed increasingly as a means of supplementing field work. It is also anticipated that the practice will give valuable clues to further research.<sup>4</sup>

The importance of making sure that the data used in a marketing research compose a sound sample is clear. Open disregard of the requirements of statistical sampling is still a much too prevalent practice which must be corrected. The failure of many researches, as well as some of the more surprising and spectacular findings of others, may be traced to faulty samples.

Nothing can displace experience and sound judgment in evaluating a given sample. In this chapter, however, the best mechanical

<sup>3</sup> Morris H. Hansen and William N. Hurwitz, "The Problem of Non-Response in Sample Surveys," *Journal of the American Statistical Association*, December, 1946.

<sup>4</sup> Lucien Warner, "Estimating the Character of Unsampled Segments of a Universe," *Journal of Marketing*, October, 1947, pp. 186 ff.



methods of testing for both reliability and proportionality, the two cardinal requisites of a representative sample, have been explained.

### Statistical Analysis

As a result of the editing and testing, the field data are ready for statistical manipulation in order to arrive at the generalizations needed for the analysis. The statistical treatment involves two separate operations: tabulating the data, and drawing the statistical conclusions. The process of tabulation, per se, is essentially that of counting the data. The process of drawing statistical conclusions is that of manipulating the data to bring out the best possible form of summary.

The researcher may draw statistical conclusions by setting the data in a neat table or by working out percentages and arithmetic means (the common average). He may take a weighted mean, or, instead of an arithmetic mean, he may employ the median, mode, or harmonic mean. Or possibly the data will be most revealing if cast in a frequency distribution showing the number of cases in different classes, such as age groups. More abstruse averages may be employed, like coefficients of correlation or measurements of deviation. At times analytical charts, which show relationships visually, are most enlightening.

The kinds of statistical generalization mentioned in the preceding paragraph do not begin to exhaust the many possibilities of different forms in which the statistical conclusions of an analysis may be stated. They are merely cited here to show that the researcher is confronted with an almost infinite variety from which to choose, and to emphasize the importance of giving special attention to the problem of drawing statistical conclusions, as distinguished from the tabulation procedure. Failure to separate these two phases in one's thinking usually leads to the more or less mechanical calculation of the most obvious forms of statistical generalization, such as percentages and arithmetic means, without considering adequately other types which are often much more revealing.

Of course the two processes, tabulation and drawing statistical conclusions, are closely interwoven in the actual conduct of a research. As the analyst plans the forms and procedures for tabulation, he has in mind the types of conclusion most likely to be drawn. The conclusions which can be thus anticipated are then calculated, more or less mechanically, as part of the tabulation process. But challenging the adequacy of the conclusions which are first devel-

oped will usually lead to facts not anticipated when the tabulations were set up. It is, therefore, important to look on the process of drawing statistical conclusions as a separate step from that of tabulating.

### Tabulation

The counting of data may be done by manual or machine methods. The decision as to which of these two alternatives should be used is based upon several considerations, which are discussed at the end of this section. The basic principles which govern correct tabulation, regardless of method, can best be explained in terms of hand tabulation procedure. The discussion below, while it applies in large part to the more commonly used manual tabulation, covers all the basic considerations met if machine methods are used, except the technical details of the operations.

**Types of Forms Used.**—In the tabulation of primary data two separate types of forms are employed—the counting sheet and the summary tables. The counting sheet, in hand tabulation, is the form on which the tabulators record the number of cases found in the questionnaires or schedules. Its form is determined largely by the tables which are ultimately to be produced. The counting sheet should be kept as simple as possible, preferably the equivalent of not more than a two-dimension table, explained on the following page. To attempt to obtain too many classifications in the original counting of the data will lead to a great amount of error and will defeat the effort to save time and expense.

One should not regard the counting sheet as an unimportant form. Most of the errors made in the tabulation process will occur at this point. Speed and economy in tabulation depend on the clarity and arrangement of the counting sheet. Furthermore, its form determines the classifications and cross-classifications of the data which will be available for analysis at a later time.

Summary tables are tables which summarize the results of the counting and may be classified into three major types. The first is the simple or one-dimension table. An example is one which shows only the number of persons using different brands of dentifrices. This type is very common, but it usually has very little analytical value.

The second type is the correlation or two-dimension table. An example is a table in which the brand used is related to the age of the persons included in the survey. This type is much more illumi-

nating than one which shows merely the number of persons who use different brands or only the ages of persons included in the study.

It is possible to set up tables which show more than a two-dimension relationship. These are the third type, which may be called complex tables. An example is one relating brands used to ages, sex, and income. Such tables are sometimes of value as a means of compressing a large amount of information in a small space.

#4069-Question 4. "How was the sample used?" Atlanta-84 families who did not buy										TOTAL
<b>WITH CHILDREN</b>										
Cereal only										33
Raw confection										14
Cooked candy										2
General cooking										3
With cottage cheese										1
Salad										1
Fed to dog										1
No answer										2
										<hr/> 57
No. of interviews										50
<b>WITHOUT CHILDREN</b>										
Cereal only										28
Raw confection										6
Cooked candy										2
General cooking										2
In soup										1
No answer										1
										<hr/> 40
No. of interviews										34

Figure 34. A Counting Sheet for Hand Tabulation

They should be avoided in marketing research work, however, as they are likely to become so confusing that the true significance of the data becomes obscured or is lost.

**Standards in Tabulation.**—Two standards should be kept clearly in mind throughout the tabulation stage. The first is that the necessary routines must be set up to insure accurate recording and counting of the data from the original questionnaires or schedules. The second standard is that the tabulation forms should bring out the most significant meaning of the data. This standard is much more important than the first and frequently not given the attention it deserves. Each of these two aspects of tabulation will be discussed separately.

Table 16—DISPOSAL OF SAMPLE

(Based on 84 Atlanta Families Who Did Not Purchase the Product)

	All Families		Families With Children		Families Without Children	
	No.	%	No.	%	No.	%
Total.....	84	100.0	50	100.0	34	100.0
Cereal.....	61	72.6	33	66.0	28	82.4
Raw Confection.....	20	23.8	14	28.0	6	17.6
General Cooking.....	5	6.0	3	6.0	2	5.9
Cooked Candy.....	4	4.8	2	4.0	2	5.9
Other Uses.....	4	4.8	3	6.0	1	2.9

NOTE: Percentages do not add to 100 because 13 families (7 with children and 6 without) used sample both as cereal and for some other purpose. 3 families did not answer.

Figure 35. Table Drawn from Counting Sheet (Illustrated by Figure 34)

Note that a table with such small numbers ordinarily would not show percentages. In the example, percentages are used for purposes of illustration.

**Rules for Obtaining Accuracy in Tabulation.**—In order to insure accuracy in tabulation work, as well as to conduct the work with a maximum of speed and a minimum of expense, there are several general principles which may be followed.

These principles are summarized in the discussion of a series of ten rules for tabulation which follows.

**Rule 1.** *The data should be tabulated separately by major groups and by individual tabulators.*

By separating the tabulation work into major groups is meant the division of the tabulation into such units as cities, or parts of the questionnaire. If separate counting sheets are set up for each market included in the study, an extra opportunity for checking the accuracy of the tabulation, as well as keeping a clear record of the progress of the tabulation work, is made possible. Separation of the tabulation by different questions or parts of the schedule is also sometimes employed for this purpose.

In planning a tabulation one must decide whether the most convenient major groups to employ for this division are markets, or parts of the questionnaire. Sometimes a tabulation is broken down on both bases. As individual tabulators specialize on certain ques-

tions or parts of the schedule, they gain a facility with experience, which speeds up the tabulation and helps make for accuracy.

Separating the tabulation by individual tabulators is necessary when hand tabulation is employed, in order that the accuracy of the work of each person may be checked. Even when only two or three different tabulators are employed, it will often be found that one is not sufficiently accurate for the work. By separating the work by individual tabulators, one can also check the rate of speed at which each is progressing. Determining this rate of speed for individual tabulators is often very important where a time limit is set on the total tabulation process. This check will make it possible to forecast quickly the length of time the tabulation will take and indicate whether it is necessary to increase the size of the tabulation force.

The fact that the data should be tabulated separately by individual tabulators does not preclude the possibility of setting up teams of tabulators for certain questions. Frequently, greater speed can be accomplished if two people carry on a tabulation operation, one reading the schedules and the other making a record on the counting sheet. In this case, the team takes the place of the individual tabulator as the unit for which the work is to be checked.

**Rule 2.** *Base totals should be established at the beginning of the operation.*

The first step in tabulation is to make a count of the total number of schedules by markets and by several other classifications, such as age groups, economic groups, or population groups. This series of numbers, representing the total number of schedules in each class, becomes the first basis on which the accuracy of the work of the tabulation is checked. If there are 326 questionnaires from Cleveland, for example, every tabulation involving that city should total 326, regardless of the subject tabulated. If proper provision has been made for a "no answer" column and for tabulating duplication or multiple answers, the totals will always check against the base total.

**Rule 3.** *A chief tabulator should be put in charge of the operation.*

It seems hardly necessary to point out the importance of having one person in complete charge of the tabulation operation. However, it is common practice to divide the authority, with the result that errors are not caught quickly and a great deal of time is wasted.

In a tabulation involving more than two or three persons, one individual, who is himself an expert tabulator, should be placed in

complete authority for the job. This person can often very well devote his entire time to assigning work to individual tabulators, keeping records of the progress of the tabulation, checking on the accuracy of the work, and assembling the completed tables as developed. It is a very simple matter for field reports to be mixed up or lost in a tabulation operation. Unless a central depot for the clearing of work to be done and work completed is established, very serious mistakes may be encountered.

**Rule 4.** *A routine for regular checking of tabulation against base totals should be set up.*

The work should be assigned to individual tabulators in as small quantities as possible. This means, for example, that an individual tabulator would be given the questionnaires for one market to make the tabulation on, say, "Question 3." As soon as this has been completed on the counting sheet, the results should be totaled for the market and checked by the supervisor against the base total which was earlier established. As a general principle, at least one check against the base total should be made on each occasion when a tabulator completes a unit of tabulation.

**Rule 5.** *Counting sheets should be standardized.*

Often a group of questionnaires is given to a tabulator, with some blank tabulation paper and some oral instructions as to how the counting sheet should be set up. This practice is not satisfactory, because errors in column and line headings will be made, sheets may be too crowded, or variations introduced which will make the comparison of counting sheets for different markets or units of the job difficult. The person in charge of the tabulation should decide the exact form which should be used for each counting sheet, and then prepare these forms so that when the tabulator begins his work on any unit he is provided both with schedules and a complete counting form.

One common error is to make these counting forms too small, so that it is necessary to run the check marks over into the wrong column. This fault, of course, leads to inaccuracy.

**Rule 6.** *All forms should have clear, complete, descriptive titles.*

This rule applies both to the counting sheets and to the tables which are later drawn from them. It seems a very simple rule, but in actual practice it is necessary to check constantly to make sure that the titles are satisfactory. The title placed at the top of a count-

ing sheet or table should indicate clearly the exact nature of the data recorded thereon. Completeness of the title is something which must be constantly watched. For example, it is very common to omit dates, and sometimes the individual units, such as the market or economic group, covered will be forgotten. The danger of omitting important information can scarcely be overestimated.

**Rule 7.** *Serial numbers should be assigned to questionnaires or schedules, and other forms used in the tabulation.*

It is not always necessary to assign serial numbers to individual questionnaires, but it is usually highly desirable as a means of keeping a more accurate record of the progress of the tabulation and of locating misplaced schedules. The assignment of proper numbers to counting sheets and tables is especially important where more than one sheet is used to record the same kind of data. Sometimes it will be found necessary to have three or four separate sheets to cover one tabulation. If these sheets are not properly numbered, they may easily get out of order, very much to the embarrassment of the person in charge of the tabulation work. By assigning serial numbers to the counting sheets and tables it is also easier to determine just how much work has been completed.

**Rule 8.** *Forms should provide for all possible classifications.*

Counting sheets and tables should make provision for all cases so that the totals derived for them are complete and correspond with the totals found at other points in the tabulation. To insure completeness spaces should be marked for the tabulation of "No answer," "Don't know," etc.

**Rule 9.** *Class intervals should be mutually exclusive.*

This is a very simple rule but one which is frequently violated. An example is shown below.

Rental Value of Home	Number of Families
\$ 0 to 30.....	223
30 to 40.....	257
40 to 50.....	165
50 and over.....	79
Total.....	<u>724</u>

These classifications are not mutually exclusive and it is impossible to tell the exact distribution of the rentals of the homes included. Having mutually exclusive class intervals is especially important in

handling survey data because people tend to report data in even numbers. In such cases the even numbers should be made the mid-point of class intervals, for in this respect the distortion of the original data through summarization is held at a minimum. A correct form for the rental data follows.

Rental Value of Home	Number of Families
Under 25.....	206
25 to 34.....	279
35 to 44.....	142
45 and over.....	97
Total.....	<hr/> 724

**Rule 10.** *All tables should be complete.*

In drawing summary tables from the counting sheets or from a run of machine cards, the tables do not usually record all the information shown. Frequently, from one counting sheet it is possible to construct more than one table, and also to combine class intervals set up in the original counting sheet. The rule for completeness, however, requires that all data necessary to a thorough understanding of the information which a table purports to show should be included in the table. One important phase of this is that "No answers" or "Don't knows" should be included in the summary tables. Another requirement is that the totals should always be shown wherever percentages are given. Unless one knows the total on which a percentage is based, he has no basis on which to determine the meaning or accuracy of that percentage.

**Rule 11.** *Classifications used on counting sheets or original tables should be narrow.*

In summary tables one usually has rather broad class intervals for the various data which are shown. For example, a table showing magazine readership by income groups would perhaps have all the data classified into four or five income groups.

It is a grave mistake, however, to set up the original counting sheet or summary table on the basis of a small number of arbitrarily assigned classifications. One can only determine the proper limit for class intervals on the basis of an examination of the data themselves. Therefore, one should set up the narrowest classifications which are compatible with reasonable speed and ease of tabulation. In tabulating age data, for example, the counting sheet should theoretically provide for individual ages, such as 8, 9, and 10. If one



is familiar with the vagaries of age data, however, he may set them up in five-year intervals. If single years are used perhaps seventy-five different class intervals will be found on the counting sheet, while if five-year intervals are employed fifteen class groups will suffice.

The final table may combine all of the data into a very few groups. However, until one has carefully examined the finer classifications, he is likely to distort the results of the study by making a mistake in setting the class intervals in which the data are to be counted.

**Rule 12.** *Data should be arranged in a table in the order which best reveals their significance.*

The question of the order in which data should be arranged in a table may appear unimportant, but it is possible to gain a great deal in clarity by carefully controlling the order in which they are presented.

The top position in the column receives the greatest attention, so that the most significant data should be placed at this point. It is now the policy of the Census Bureau to show the total of each column on the first line, rather than at the bottom of a table. By this arrangement the total, which is usually the most important single figure and often very significant in the interpretation of the other data, is given the position in which it will receive the greatest attention.

Frequently the order in which the column headings or lines of the table are arranged is a matter of tradition. If the data deal with geographic units, for example, one may follow the traditional arrangement of the Census Bureau by census regions. Sometimes, however, it may be better to follow another traditional and arbitrary arrangement—the alphabetical. The advantage of alphabetical arrangement is, of course, that it makes for quick identification of individual units.

Data involving periods of years or months are traditionally arranged from the first point in time to the most recent. Sometimes a table will be more effective by reversing this process and showing the most recent data first. Age data are also traditionally arranged so that the youngest age group appears first.

There are times when an alphabetical or other traditional arrangement can best be eliminated and an arrangement according to the size or frequency of the item substituted. The Census Bureau, for example, frequently tabulates data, such as the value of products

of manufacturing industries, in a descending order of magnitude. This method of presentation is much more emphatic and will frequently emphasize the most significant parts of the table.

**Obtaining the Most Significant Meaning from the Data.**—The bulk of the preceding discussion was related primarily to the matter of obtaining accuracy in tabulation. Setting up the tabulations so that they will best reveal the meaning of the facts is even more important. The proper classification of data by using cross-tabulations, such as the relation of brands used to age, is the key to accomplishing this objective. Presumably, in planning the investigation one has kept clearly in mind the bases for analysis which will be most important. Once the data have been gathered, however, there is ample opportunity for exercising ingenuity in bringing about other classifications and showing the relationship of one part of the findings against another.

The correlation aspects of tabulation should not be overlooked. Unfortunately the term "correlation" has been commonly associated with very advanced mathematical and statistical techniques employed to arrive at measurements of the degree of association, such as the coefficient of correlation. As a matter of fact, one is making a correlation when he employs a two-dimension table just as much as he is when he calculates a coefficient. In the first case he is presenting a tabular relationship; in the latter he is measuring the degree of concomitant variation. The latter is much more difficult to obtain, but the former may be fully as significant.

All the minor elements of tabulations which have already been discussed, such as the orderly arrangement of data, are interesting. But to the analyst a tabulation is chiefly a means of expressing correlations. To illustrate, when we prepare a table showing the number of persons of different ages who use our product, say, a dentifrice, we are not just counting. We are in effect measuring the relationship here between two variables—age and consumption—just as much as though we were to proceed to the opposite extreme of using involved statistical measures of correlation.

The proper observance of Rule 11, having the data counted on the finest possible classifications, is a first step toward bringing out facts most clearly. The person in charge of the analysis should also become thoroughly familiar with all phases of the tabulation operation and watch the work closely as it progresses to discover new methods of classification.

Some research directors make it a point to tabulate personally a small number of the returns in order to familiarize themselves thor-

oughly with the exact meaning of the data which have been obtained. Often, it will be found that by going back to a few of the original blanks after the entire tabulation process has presumably been completed, and making a personal tabulation of a small number of questionnaires, it is possible to discover entirely new methods of breaking down the data and developing significant facts and relationship.

**Machine Versus Hand Tabulation.**—One may frequently choose between using machine tabulation or hand tabulation for counting the data. If machine tabulation is to be employed, the data are transferred to punched cards. Special tabulating machines, electrically operated, sort the cards into various classifications, mechanically count the data, and may print the totals. A wide variety of types of tabulating machinery are now available, the latest development being the electronic calculator.<sup>5</sup> Some companies have a sufficiently large volume of regular tabulating work, as in the maintenance of sales records, to warrant renting tabulation equipment. For companies which cannot afford to lease the machinery, service organizations in the larger cities supply machine tabulation facilities on a job basis.

Both machine tabulation and hand tabulation have advantages and corresponding weaknesses.<sup>6</sup>

#### **Advantages of Machine Tabulation.**—

**LOW COST IN LARGE OPERATIONS.**—The first advantage of machine tabulation is its low cost if a large volume of data is to be counted. Such operations as the U. S. Census and the analysis of life insurance records are examples of situations in which it is obviously more economical to use machine tabulation methods. In marketing research, machine tabulation is more economical than hand tabulation when a great number of fairly complex schedules are involved.

**SPEED.**—For work which involves a large number of items, counting can be done more rapidly by machine than by hand. However, in machine tabulation three specific operations must be employed: coding the schedules, punching the cards, and running the cards through tabulating machines. While the final counting may be done at the rate of several hundred cards a minute, the two preliminary steps require considerable time. Except in rather large

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<sup>5</sup> See current catalogs of International Business Machines Corporation.

<sup>6</sup> See Mary R. Paton, "Selection of Tabulation Method, Machine or Manual," *Journal of Marketing*, January, 1942, pp. 229-235.

[illegible]

**Figure 36. A Machine Tabulation Card**

Columns 1 through 14 are for the punching of classification data, the balance for sought data. The rectangles represent holes punched in the card, which are counted by a card sorter. The punching of item 1 in column 43 indicates that the respondent is a smoker. The punching of item 3 in column 44 indicates that he smokes the brand of cigarettes and has been given the code number 44-3.

jobs, therefore, the use of machine tabulation may not save time, and in small operations, may be slower than hand tabulation.

**CROSS-CLASSIFICATION.**—Machine tabulation probably has its greatest advantage over hand tabulation in cases where a large number of cross-classifications are desired. If the facts obtained in a research are to be broken down on several different bases, such as age, sex, time periods, and brands used, these various cross-classifications can be very quickly and economically established. In hand tabulation, the data must be recounted over and over again if a large number of such cross-classifications are desired. Many people make the mistake of thinking of the advantages of machine tabulation largely in terms of cost, speed, and accuracy, whereas its most fundamental advantage is the ability to obtain an almost endless degree of tabulation by cross-classification.

**ACCURACY IN COUNTING.**—In the purely mechanical phases of punching and running the cards through the tabulating machine, machine tabulation is likely to be more accurate than hand tabulation. The accuracy of the card-punching operation may be established by having the cards run through a verifier, so that errors in punching will be caught. The coding work which is necessary for machine tabulation, however, is not a mechanical process and is fully as subject to error as any phases of hand tabulation. If the hand tabulating is carried on with the type of checks and controls recommended in this chapter, the possibility of error should be no greater than in the machine tabulations. To some people, machine tabulation does give a feeling of security. This is especially valuable in large marketing research studies made by publications and similar organizations which must do everything possible to gain the confidence of the persons to whom they give the results. When these studies are made annually and a standard procedure is established, the use of machine tabulation makes for routine accuracy.

**EASE OF RETABULATION.**—Another advantage of machine tabulation, which is frequently overlooked, is the speed and low cost at which it is possible to obtain special tabulations after the original tabulation of data has been completed. Frequently one will find in the process of interpretation, or when writing the report, or even after the report has been presented, that a certain type of fact which was overlooked in the original tabulation should be obtained. For example, one might discover at a very late stage of the research that a special breakdown of magazine readership by users of certain brands and by income groups is desirable. If hand tabulation has

been used, this requirement would necessitate locating the original schedules and setting up entirely new tabulation operations. If machine tabulation has been used, it would merely be necessary to specify the cross-classification required, and run the cards through sorting machines, a process which could be completed in a few hours. The information would then be available in a short time.

**Disadvantages of Machine Tabulation.**—While machine tabulation is frequently more desirable than hand tabulation, one should keep clearly in mind the disadvantages of using the machine methods while determining which process to employ.

**HIGH COST IN SMALL OPERATIONS.**—If a comparatively small number of questionnaires or schedules are involved in the study, or if the quantity of information or number of questions on each schedule is small, machine tabulation may be more expensive than hand tabulation. There is no economy in machine methods unless a large number of operations are involved.

**CONFUSING THE ANALYSIS.**—This disadvantage of machine tabulation is met under those conditions most favorable to machine tabulation, namely, where many questions are asked in an individual survey or many cross-classifications are desired. Unfortunately, this difficulty is not generally recognized. At the end of the machine-tabulating process one obtains a series of sheets which must be decoded and on which total countings are shown. In view of the flexibility of machine tabulation, it is common practice to set up as many different cross-classifications as possible. The result is that one may be faced with a large number of sheets showing hundreds of different facts. In attempting to carry on the study from this point, the researcher is very likely to have his thinking confused by the sheer complexity of his facts. There is, of course, no reason why he should not be able to separate the wheat from the chaff. As a matter of practical fact, however, the writer has seen a number of cases in which researchers have lost significant findings of a study because they became entangled in the large quantity of details obtained by the use of machine methods.

**When to Use Machine Tabulation.**—From the discussion of the comparative advantages and disadvantages of machine tabulation above, one can readily determine the conditions under which machine tabulation is justified. Machine methods should be used in these instances:

1. *When a large quantity of data are involved.* This situation occurs when there are a large number of reports and the data covered

in each report are fairly extensive. For questionnaire studies, a rule commonly followed is that machine tabulation is justified if there are approximately 3,000 average-length questionnaires, or over 1,000 long ones. It is important to note that the complexity of the questionnaire is the chief guiding factor. If only a few pieces of information are obtained on each individual report, there is little advantage in machine tabulation, regardless of the number of reports.

2. *When a large number of cross-classifications are required.* If a large number of cross-classifications are to be wrung out of the data, machine tabulation is justified, even with a comparatively small number of questionnaires.

3. *When routine or repeated studies are made.* Wherever information is obtained currently in connection with the general routine of business, or a certain type of study is repeated at regular intervals, machine tabulation is obviously indicated. A mail-order company, for example, may select a group of 50,000 customers, and tabulate the facts regarding their orders from day to day as the mail is received. In such a case machine tabulation is obviously the better form. If a company wishes to make a regular analysis of its sales, machine tabulation should also be used. A manufacturer, for example, can usually well afford to employ machine tabulation equipment for the purpose of recording the various facts about orders received. Some retailers have also found that analyses of individual sales slips, which would require the use of machine methods in any but the smallest stores, are desirable.

The mechanics of machine tabulation is not discussed in detail at this point for several reasons. It is a highly technical procedure and requires specially trained personnel for its most effective use. The development of the specific method which should be employed in handling any given market research study by machine tabulation is a special task. Those companies which lease the machines or do machine tabulation on a fee basis have specially trained servicemen to lay out each individual job. If machine tabulation is contemplated, these specialists should be consulted in planning the analysis, as considerable time and expense may be saved by precoding the forms to be used in gathering data and planning the tabulation well in advance.

A final reason for not including a discussion of the details of machine tabulation methods in this book is that those readers who are interested will find the subject treated adequately elsewhere.<sup>7</sup>

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<sup>7</sup> See *Descriptive Supplement—Technique of Tabulation*, U. S. Census of Agriculture, 1935, which may be obtained gratis from the Department of Commerce, Bureau of the

### Drawing Statistical Conclusions

The distinction between the process of tabulation and that of drawing statistical conclusions was made earlier in this chapter. It was shown at that point that, while in practice the two processes are interwoven, it is essential to keep clearly in mind the special problem of the final statistical conclusions. This is necessary to insure that the statistical generalizations will be cast in the most enlightening and useful form.

It is important to bear in mind that, no matter how carefully the tabulations have been planned, the most significant facts and relationships are not always evident after the first routine tabulations have been made. The summary tables should be carefully examined with the thought of discovering new types of generalizations which may be more revealing. In studying a table showing the brands of a product used by different income groups, for example, it may occur to the analyst for the first time that a special tabulation should be made to break down the data on the basis of the length of time the product has been used. An examination of the results of taking arithmetic means may reveal the necessity of employing other averages, such as the median, or perhaps the need of working with frequency distributions. Sometimes it will be found necessary to run a special tabulation to obtain the best form of statistical conclusion. Sometimes it is not necessary to retabulate, because the problem is merely one of drawing a different form of conclusion from the original tabulations. Incidentally, it is often useful at this point to mull over a few of the original questionnaires to make sure that no significant possibilities have been overlooked in the mechanical and burdensome task of tabulation.

The decision as to the statistical conclusions which should be drawn from a given set of data must be based upon a thorough understanding of statistical method. The meaning, characteristics, and limitations of all forms of statistical summarization and generalization, such as the median and frequency distribution, must be kept clearly in mind during this process.

There are no peculiar conditions in marketing research which call for special techniques in drawing statistical conclusions, nor is there any place for unsound statistical jugglery or manipulation.

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Census, Washington, D. C.; and Ferdinand C. Wheeler, *et al.*, *The Technique of Marketing Research*, New York, McGraw-Hill Book Co., Inc., 1937, Ch. 14. The manufacturers of machine tabulation equipment also provide complete information on the methods. See the *Powers Reference Manual*, published by Remington Rand, Inc., Powers Accounting Machine Division, Buffalo, N. Y. This manual explains in detail the application of machine tabulation methods to special types of problems.



There are, however, two considerations, frequently overlooked, which the analyst should bear in mind when drawing his conclusions. The first of these is the importance of establishing relationships. The second is the danger of overgeneralization.

**Importance of Establishing Relationships.**—Relationship is the fundamental of all science. Absolute facts, by themselves, are likely to be meaningless. The fact that a given share of the market uses a particular brand of a product, by itself, has little or no significance. It is only important when the use of a product is related to other facts, such as use during preceding periods of time, in different geographic areas, by income groups, of competing products, and to the marketing activities of manufacturers, wholesalers, or retailers. The value of a statistical conclusion is in large part determined by the extent to which it establishes significant relationships. In drawing statistical conclusions, therefore, attention must be focused on the possibility of establishing all important relationships within the data.

**Dangers of Overgeneralization.**—A fundamental purpose of statistical analysis is to make generalizations. We begin with a vast mass of data. Perhaps we have the results of 10,000 interviews, which as a group reflect the characteristics of our total population. By employing this sample, we have in effect reduced our number of cases to a point where we have a manageable group. Yet we must go much further. The limits of the human mind are such that we cannot merely read and reread these individual schedules. We must find some means of further reducing our data, to arrive at some generalizations which can be applied in our marketing policy.

By properly classifying data we are further generalizing, for it is now possible to select certain phenomena for consideration. The frequency distribution, by which we lump together all cases falling within certain established class limits is another step in generalization. By the use of the various means (arithmetic, geometric, harmonic, mode, and median), we reach an ultimate reduction to one single concept. Thus there is no limit to the extent to which we may generalize statistically. Our raw data may begin with 150,000,000 cases (for the United States alone). By the use of simple averages we reduce the facts regarding these 150,000,000 cases down to one, as, for example, if we were to say the average age of persons in the United States is 19 years.

The process may be carried further. By the measurements of deviations (average or standard deviation) and by the measure-

ments of error (standard error or probable error), we have produced further generalizations. A correlation coefficient is an average—a generalization. We may even measure, and sometimes do measure, the probable error of a coefficient of correlation.

Thus we see that fundamentally we are engaged in a process of successive generalization, which may be illustrated as follows:

	1. Total population.....	(150,000,000)
(reduced to).....	2. Sample.....	(10,000)
(further reduced to).....	3. Classification.....	(5,100 male; 4,900 female)
(further reduced to).....	4. Frequency distribution.....	(0-4.99 years.... 1,112)
		(5-9.99 years.... 978 etc.)
(further reduced to).....	5. An average.....	(Median age, 26.4 years)

By thus making generalizations possible, statistics is of inestimable help in marketing research. But the very process is fraught with danger. We constantly forget that our various forms of averages are really substitutes. That fact must constantly be kept in mind.

Since these generalizations or averages are substitutes for the total population, the prime test in applying them statistically is the accuracy with which they reflect the characteristics of the original population. Every abstraction loses something while it gains in clarity. It is important to make sure that you have lost nothing vital.

The danger of losing vital facts in the process of generalization is illustrated by the discovery that some single incident or case is much more important than statistical generalizations. To illustrate—some time ago a group of women were interviewed to determine resistances to the buying of shoes. Only one woman of several thousand mentioned that when she went in to buy shoes, she first had to take off her shoe and was then at the mercy of the clerk. The unskilled researcher would have overlooked this fact, for the preponderance of evidence made this objection unimportant. Yet a further investigation adopted this as its hypothesis and used techniques which made it possible to obtain a real appraisal of this resistance. The second study showed that this was the most important resistance to be overcome.

In general it is probably safe to say that the present tendency among most researchers is to push the process of abstraction entirely too far. By habit, often from our early arithmetic, we constantly look for means. These are usually the least important product of our investigations. Of what significance is such information as the *average* size of stores, the *average* age of automobile buyers?

The increased use of frequency distributions, which tell us the characteristics of various classes, is to be greatly encouraged. There are really valuable data in such information as the number or proportions of stores of various sizes.

The danger of carrying statistical analysis too far is further illustrated by the following data taken from a cost accounting study of selling expenses for a rubber manufacturer.<sup>8</sup>

TABLE 48  
COST OF SELLING TO ACCOUNTS OF VARYING SIZE  
(Expense expressed as percentage of sales)

Size of Account	Average Expense	Expense Range *
\$100.....	24.0	15.0 to 33.0
500.....	15.0	10.0 to 20.0
1,000.....	13.5	11.0 to 16.0
2,000.....	10.0	7.0 to 13.0
3,000.....	11.5	6.0 to 17.0
5,000.....	8.9	5.4 to 12.5
15,000.....	9.0	7.0 to 11.0

\* Exceptionally high and low extremes were omitted to obtain a constant expense range.

The contrast between the results of the analysis if one were to consider only the average expense for each group of accounts, and the results obtained if one were also to consider the expense range, clearly indicates the danger of the use of ordinary "averages" without other forms of statistical description. It will be noticed, for example, that there are included individual accounts in every class above \$2,000 which are as costly to sell as some accounts found in the \$500 and \$1,000 class.

If one were to think solely in terms of the average cost of selling different groups of accounts, he would conclude that there was a complete correlation between the size of account and the expense of handling it; that is, as the size of the account increases the cost of selling the account declines. Consideration of the expense range column, however, indicates that each account is individual and that the factors which determine the cost of selling vary considerably between accounts of about the same size. If one's thinking were limited to the showing of average sales, he might rush into a very

<sup>8</sup> Based on J. F. Cullen, "An Approach to the Problem of Cost Finding in the Marketing of Rubber Footwear," *N.A.C.A. Bulletin*, March 15, 1932, pp. 929 ff. Average selling expenses are given in the article for a different classification of account size, necessitating the use of class interval midpoints, which approximate the means, for purposes of illustration.

radical recommendation of marketing policy, such as the complete elimination of accounts of a minimum size or an arbitrary set of discounts completely out of line with the requirements of true selling costs.

It is well to bear in mind that statistics, since it is a science of applied numbers, bases all its conclusions on sheer preponderance of evidence. Realizing the real nature of statistical methods, one can keep their limitations in mind, and avoid setting the stage for false or unimportant interpretations.

**Weighing the Negative Factors.**—Another important principle for the researcher is that all statistical conclusions should be tested by carefully weighing the “negatives” to those conclusions. To illustrate, we seek to discover how the various designs in automobiles appeal to the buying public. A ballot, asking persons at an automobile show to vote for the cars which they believe to be best looking, is prepared. Then, on the basis of pure preponderance of opinions, we draw statistical conclusions. In a study made at automobile shows some years ago it was found that by far the largest number of votes were cast for the then revolutionary Chrysler. But to conclude that the public preferred this style was erroneous, for a checkup on votes for the least attractive car showed that here again the Chrysler was given a preponderance of votes. When the negative votes were deducted from the positive, it was found that the Chrysler had comparatively poor acceptance. Packard, on the other hand, did not have nearly as many votes as the best-looking car; but inasmuch as very few mentioned it unfavorably, it was concluded that this car had a much better general acceptance than the Chrysler.

This particular illustration not only shows the importance of weighing the negative factors but emphasizes the principle of avoiding too great generalization in statistical treatment. The important fact, in the last analysis, is not an average vote of popularity. What is needed are the statistical conclusions represented by frequency distributions which show the relative numbers voting each way on all makes. Thus, while Pontiac may average high, medium, or low, from the point of view of marketing policy we are chiefly concerned with getting an accurate picture of the numbers who rated it high, medium, or low. This form of statistical generalization points directly to the nature of the acceptance of the public.

Thus we have gained the benefits of statistics—we have abstracted from the vast mass of approximately 30,000,000 car owners a picture

of their attitude toward the styles of current models. At the same time, we have been careful to avoid losing the really vital characteristics of those attitudes. That represents sound development of statistical conclusions.<sup>9</sup>

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<sup>9</sup> For a detailed exposition of the problems met in analyzing data, see Hans Zeisel, *Say It with Figures*, pp. 1-66 and pp. 169-210, New York, Harper & Bros., 1947.

## CHAPTER 24

### INTERPRETATION

After drawing conclusions of a purely statistical and objective nature, the researcher must interpret these conclusions into specific marketing recommendations, before making any effort to produce a formal report. Statistical conclusions and evidence from experiments, *per se*, prove nothing. They are merely evidence. Having marshalled his evidence, the researcher still faces the problem of using these results logically so that he may determine the best policy for his company.<sup>1</sup>

**Interpreting Research Findings into Business Policy.**—One of the chief issues in the problem of interpretation is determining how far the researcher should go in attempting to put his findings into practical use. There are four common attitudes on this problem, each representing varying degrees of interpretation. The first attitude is represented by those who contend that the job of the researcher is finished when he has marshalled his facts in presentable form. These people believe that the researcher, being of a scientific turn of mind, should concentrate on the development of correct conclusions, such as those statistical assemblages of facts mentioned in the preceding chapter, and give no thought to the interpretation of these conclusions into business practice. They argue that the best scientist is an impractical type of person, and that he can do his work most scientifically if he is completely relieved of any necessity of moulding his results into policy.

A second group believes the person in charge of the work should go further than a mere statement of factual findings, but that he should give his facts only general interpretation. For example, this group would have the researcher draw such general conclusions as "The sales managers should check carefully on the number of calls and number of displays set up. . . ." This procedure is considered going slightly beyond the mere assemblage of the data, but does not

<sup>1</sup> For a discussion of the relationship between analysis (drawing statistical conclusions), interpretation, conclusions, and recommendations, see Committee of the American Marketing Association, "Preparation and Presentation of the Research Report," *Journal of Marketing*, July, 1948, pp. 64-65.

look to specific statements of recommended policies or practices. Those who hold to this view recognize that the person who has been intimately associated with the study is in the best position to draw general conclusions in relation to the company's problems.

A third group would have the researcher go much further. They would have him, for example, work out a specific marketing plan or program based on his findings. In this case the conclusions are transferred into specific recommended actions, and all the firm has to do is to implement the proposals which are contained in the report.

There is a fourth group which would go even further. They contend that research work is not done until the analyst has supervised the working out of his recommendations in actual operation. They would have him cooperate with the sales department, travel about from branch to branch, set up his system, and see that it works. This group contends that there are two specific reasons for this attitude. First, there is a common tendency among business executives to receive a report, and do little or nothing with it. Marketing research studies often cut across departmental lines, and each executive is therefore inclined to wait on others for action. Also, there are always some individuals in an organization who will believe that an obstructionist policy on their part will further their own individual interests. Second, it is contended that the researcher, in making his study, has gained a great amount of valuable experience which will be of use in making sure that the proposed changes are successfully carried out.

It has now become a generally accepted principle in marketing research practice that it is desirable for the researcher to make interpretations and recommendations unless he is specifically instructed to the contrary. There are, of course, a number of research jobs of a purely fact-finding and mechanical nature, such as the continuous checking of readership. In such cases, the research function for the particular organization charged with gathering the data ceases once the facts are properly presented. However, in a complete marketing research study, which begins by setting forth a specific problem and then proceeds through to its solution, it is highly desirable for the researcher to extend his activities through the interpretation and recommendation stages.

That such activity is now considered a legitimate province of research is shown by the following statement by a committee of the American Marketing Association:

This committee believes that the recommendation function, far from being inherently inimical to the research function, is a logical component of it, and that the arguments against its inclusion are in reality indications that there may be some instances in which recommendations may not be appropriate to the assignment or to the capacity of a particular research person. Above all, it must be recognized that a piece of research may be wholly valid and complete for its purpose even without recommendations and sometimes without conclusions. Similarly, a research report may be entirely invalid for reasons that have nothing to do with the presence or absence of recommendations. It seems clear that the researcher, as such, does not make policy decisions of management based on his recommendations, nor can he assume responsibility for execution of policy. If he shares in these activities as a participant in top management, he does so not as a researcher, but as a well-informed executive.

It is assumed that in cases where the client requests the research organization to make recommendations, these recommendations are accepted as research counsel. The researcher thus takes the responsibility of giving good counsel but management takes the responsibility of deciding whether or not to act on the counsel.<sup>2</sup>

**The Problem of Interpretation.**—The function of the interpretive stage in marketing research is to interpret the factual conclusions developed in tabulation and analysis into a set of specific recommendations regarding the marketing practices of the company. The two fundamental requisites for the proper development of these interpretations are:

1. Using sound logical reasoning from facts to recommendations.
2. Constructing the recommendations so that they will be carried into practice.

The first problem in interpretation is to reason logically from the facts found in the analysis to a set of recommendations. This procedure is seen to be merely a matter of straight thinking.

The establishment of the statistical conclusions in the tabulation and analysis represents the end of inductive work. But no company can make a profit from the statistical conclusions of facts found in the research, *per se*. The gain arises only when the facts have been logically interpreted into marketing techniques and policies which will in turn contribute to increased profit. Thus the inductive facts must be converted into specific recommendations by deductive logic before their value can be realized.

The second basic problem in interpretation—developing the recommendations in such form that they will be carried into actual

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<sup>2</sup> *Ibid.*, pp. 62–63.



practice—requires keen appreciation of many practical considerations. While it is generally conceded that faulty presentation is one of the chief reasons why so much marketing research work is disregarded by executives, the lack of a clear-cut policy statement which fits the specific requirements of the business is likely to be equally important.

**Making Logical Interpretations.**—It is beyond the scope of this book to discuss the many ramifications of the problem of straight thinking or logic. The ability to keep within the bounds of sound logic is something which is acquired from experience and becomes an integral characteristic of an individual rather than a matter of hard-and-fast rules.

There are many handicaps to straight thinking which should, of course, be avoided by the researcher. One of the most important is the desire to be spectacular. The tendency to overemphasize the revolutionary nature of their findings and recommendations is especially common among less experienced analysts and those who find it necessary to impress clients or individuals with the value of their work. Marketing research can never be a panacea for all business ills, nor is it the most important single aspect of the complex and many-sided operations of a business. In the desire to impress others with the importance of his work it is very common for a researcher to read into the statistical findings interpretations which are entirely unwarranted and which, in effect, largely represent wishful thinking on his part.

A second common handicap to straight thinking is the fear of being forced to admit that one does not have a complete solution to a problem. Unfortunately, the marketing researcher is too frequently confronted with a demand by businessmen for absolute finality and certainty. As a matter of fact, this desire for a complete solution to a problem is most unfortunate because experience shows that there is not a complete solution to most business problems.

In order to avoid raising doubt in the minds of others as to the adequacy or accuracy of the analysis, the marketing researcher is usually forced to cast his recommendations in very positive form. He should not, however, allow this circumstance to cause him to make unwarranted interpretations. People are afraid to admit that they "don't know." This fear becomes an underlying reason for a great amount of loose and illogical thinking in an attempt to convert the facts found in a marketing research into a recommendation for a business policy.

A third logical fallacy frequently met is the tendency to believe that if one is unable to prove a given proposition, the opposite must be true. If one attempts to determine whether a company should open a sales branch in a certain city, and cannot prove that the branch should be opened by his marketing facts, he may assume that the data prove that the company should not embark on the proposed course of action. Likewise, if one is unable to prove that a certain advertising medium should be used, he may assume that his evidence shows that it should not be used. One might also study a proposed advertising campaign and be unable to show clear-cut benefits which have accrued from a small test. He is likely to conclude that the proposed campaign would not be successful.

The results of most marketing operations are largely so intangible that it is impossible to obtain final and complete evidence which establishes their exact value beyond the shadow of a doubt. The research man must not allow himself to overlook the many unmeasurable factors which are present in any given situation. A list of the probable benefits to be derived from a national advertising campaign by a mail-order house showed that it would be possible to obtain a statistical measurement of only two out of twelve objectives set up for the advertising. These were the value of mail orders received and the number of new customers gained. Since two of them were subject to dollars-and-cents appraisal, the company attempted to judge the value of the campaign solely on the basis of the two measurable factors. The test was doomed to failure, because ten of the twelve benefits could not be directly measured. It was unsound logic to assume that failure to establish the success of the campaign on two grounds proved that it was not successful.

**Standards for Interpretation.**—Since interpretation is primarily a problem of straight thinking, it is impossible to develop a mechanical formula by which any given type of statistical conclusion can be interpreted into a specific recommendation. The researcher can, however, test a proposed interpretation, once it has been made, to determine to a certain extent whether the facts warrant the proposed recommendation. It is suggested that the following criteria be used as a basis for testing the logical foundation of any interpretation.

1. *Is the relationship between the facts and the recommendation real or imaginary?* The most important danger to be guarded against in this connection is the fallacy of apparent similarities. Because the data gathered in the analysis have the same word description as the problem with which the analyst is wrestling, it must not be assumed that they present a satisfactory basis for direct interpretation.

For example, one may have obtained from a large number of consumers statements as to whether they received a premium in connection with the purchase of a certain product. It was once found in a survey that 20 per cent of the users of a certain product stated that they had at one time or another obtained a premium in connection with a purchase. It does not follow that one can jump to a recommendation regarding the use of premiums on the basis of such facts. In the first place, the analyst has only the statements of consumers, which may or may not be accurate and are, therefore, an inadequate factual basis for his interpretation. In the second place, the mere fact that 20 per cent of the purchases involved the obtaining of a premium may or may not represent a sufficient basis on which to make a policy recommendation concerning the use of premiums.

As a matter of fact, the mere percentage of persons who happen to obtain premiums with the purchase of a product does not provide in itself a basis on which a policy recommendation can be formed, although it might be of some value in connection with other facts, such as the number of new users obtained or the cost of premiums in relationship to the profitability of the article. Above all, one must be careful to avoid the fallacious assumption that merely because the facts gathered in the analysis deal with "premiums" they necessarily warrant his making direct recommendations regarding the "premium" policy of the company.

2. *Is the interpretation supported at several points by the evidence?* If the recommendation of a certain marketing policy is based upon only one piece of evidence discovered in the research, it is much less likely to be logically sound than if evidence from several different parts of the analysis points unmistakably in one direction. If, in a study of the market for a farm implement, for example, facts obtained from consumers, dealers, technicians, secondary sources, technical experiments, and cost accounting analyses *all* point toward the advisability of adding a lower-priced item to the cultivator line, the analyst may confidently make such a recommendation. If his evidence pointing in the direction of such a policy is restricted to one source, however, he is in a less fortunate position.

In making a crucial interpretation, it is always advisable to check the evidence carefully to see if the general conclusion on which a given interpretation is to be based is true in different localities, for different types of dealers, or for different periods of time. The more uniform the evidence and the more points from which it converges in the direction of one recommendation, the more confident the researcher may be in making such a recommendation.

In connection with this general principle, that the interpretation should be confirmed at as many points as possible, it is well to remember that one can seldom base a safe interpretation upon only one type of evidence. For example, suppose one were making an analysis of the productivity of salesmen of different ages. If it were found that the annual sales per salesman consistently declined after the age of forty, this would be an important bit of evidence, but not in itself sufficient for proper interpretation into a specific recommendation. Questions might arise, such as: "Should salesmen over forty years of age be discharged?" "Should they be reassigned?" "Should they be pensioned?" "Should their pay be decreased?" One cannot logically determine, solely on the basis of the evidence cited, which of these courses is the correct one. Other facts must be made available. It might be determined that none of the recommendations mentioned is the proper one. Other facts, when combined with the data on productivity by age groups, might show that the real cause of the difficulty is the lack of adequate sales training and supervision for those in the higher age groups.

One of the most important ideas for a marketing researcher to bear in mind in interpreting his work is the fallacy of straight-line thinking. Because of many practices in education, one is likely to acquire the habit of attempting to solve problems in a "straight line." Such expressions as "building a chain of evidence," "thinking straight," and "arriving at a direct solution" indicate the prevalence of the straight-line idea.

One source of confusion is the traditional method in which logic is taught. The subject of logic is usually introduced in terms of the syllogism and fallacious forms of syllogistic thought. The author has no quarrel with syllogistic logic, but he has observed that it implants the notion that logical thought is a process by which one reasons from a major premise through a minor premise to a conclusion, with the implication that by a series of individual steps one progressively arrives at a conclusion. As a matter of fact, one is usually helpless with a limited number of inductive facts. Only by bringing together all the available evidence bearing upon a proposed interpretation can one feel on safe logical ground. For this reason, the researcher is particularly careful to see that a proposed interpretation is supported at many different points by the evidence.

The idea of straight-line thinking is also implanted in the more elementary courses in mathematics. A mathematical equation, which is nothing more than a special form of symbolic logic, implies that solutions are obtained by a series of straight-line steps. As a result,

many people acquire the habit of thinking in oversimplified straight-line relationships.

Another notion which contributes to this misunderstanding is the old idea of cause and effect. Unfortunately, most people look for some one cause which has produced a given effect, in spite of the fact that scientific thought has demonstrated for some time that the old notions of causal relationship are unsound. For example, some physicians, in making a medical diagnosis, seek to find one direct cause, rather than considering the problem as a whole.

So far as marketing is concerned, there is no simple parallelism such as that found in logic, in mathematics, and in isolated cases of cause and effect. Any given condition has many causes. Many paths must be followed in the solution of a marketing problem. Nor can the marketing researcher hide behind the theoretical dodge "other things being equal," because in marketing *other things are never equal*. A marketing problem represents the sum total of many influences. Its solution must, therefore, be many-sided.

The tendency to straight-line thinking causes many people to overlook entirely multiple relationships. The chief contribution of multiple correlation in the field of marketing is not necessarily that it provides a more scientific solution to a problem. A major contribution may be said to be that it inculcates an appreciation of the fact that marketing conditions represent multiple relationships which must be investigated both separately and jointly. In interpretation, therefore, the researcher should abandon the idea of reasoning in a straight line from one set of facts about a market to a logical conclusion, and develop the habit of bringing all possible knowledge about the problem to bear in its general solution.

In judging a proposed interpretation, it is good practice to cast about for confirmation from sources outside the specific study. It will usually be found that some phases of the evidence obtained parallel information already available from other sources. An interpretation of information obtained from retailers, for example, might lead to the conclusion that the margins offered on a given product should be increased. It is helpful to determine what evidence is available from external sources which will tend to confirm this need. If it is found that the data on gross margins by various types of retail organizations reported by the Harvard University Bureau of Business Research show that the present margins offered by the manufacturer are out of line with the general standards, the interpretation is given further support.

3. *Are any crucial exceptions to the proposed interpretation found in the evidence?* When one has hit upon a suggested recommendation, he does not usually find that all the evidence bearing upon it points clearly in one direction. In a study for a washing machine, it may be found that the vast majority of consumers prefer a machine which washes clothes as rapidly as possible. This, confirmed by other evidence, may point directly to the recommendation that a machine which will wash clothes at a rapid rate of speed should be produced. However, a close examination of the evidence may show that an important group of consumers regard speed as an undesirable factor. Exceptions of this type are frequently encountered in all types of analyses.

In such a case the researcher is presented with the problem of determining whether the exceptional cases negative his proposed interpretation, or merely modify it. In the case of the washing-machine analysis, the exception cited points to the need for modification of the recommendation by requiring the production of a second type of machine to meet the demands of the minority of the market.

A case of finding one sort of evidence which completely negated a proposed interpretation is afforded in a study for a breakfast cereal. From many sources it was determined that a certain cereal should be packaged in a box larger than the one previously used. The company apparently was faced with an opportunity to make a master strategic move which would give it a great competitive advantage. Fortunately, it was found that a large share of consumers' cupboards were so constructed that they could not accommodate the proposed package. This finding represented a crucial exception, which completely negated all the other evidence pointing toward the desirability of the proposed change in the size of the cereal package.

4. *Does the evidence satisfy the requirements of the hypotheses?* When one is making interpretations of statistical conclusions, it is wise to go back to the original hypotheses set up in planning the research to make sure that the data obtained provide a sound basis for solving them. As the study progresses and one becomes immersed in the details of gathering and analyzing data, it is easy to assume that whatever evidence is obtained will be sufficient. This tendency is heightened by the embarrassment at discovering that the facts found are not adequate, and that further information must be obtained.

As a matter of fact, one must bear in mind that many hypotheses are insoluble. One may attempt to determine whether a certain radio program should be abandoned, and obtain all the evidence available. This evidence, however, may not be sufficient to make such a decision. In such a case the researcher is tempted to bolster it by positive statement and dramatic presentation. This is unscientific and should be avoided.

It may be found, when checking the original hypotheses, that the field work has gone off on a different tangent, pointing to an apparent recommendation which is not sound. However, one must recognize that it is quite possible that the facts obtained have led to important conclusions on points which were unanticipated at the time the study was planned. If the data point clearly to a recommendation which was not anticipated by any of the hypotheses, the recommendation should, of course, be made.

5. *Do the data point to the opposite recommendation?* A very important step in proper interpretation is testing the validity of the opposite conclusion to the one being recommended. Thus, if the researcher's conclusion is that "the X company should abandon radio advertising," he would do well to state his conclusion: "The X company should *not* abandon radio advertising." Then he should go back and check the evidence, to make sure that it does not point just as logically to the second conclusion as it does to the first. This apparently naive process will often show that a false interpretation has been read into data, possibly as the result of personal interests and prejudices.

6. *Does a small scale test support the proposed interpretation?* Having satisfied himself that he has correctly interpreted the findings, the researcher should, where possible, test the conclusions further. He may have concluded that the company should set up a sales training system, with certain detailed characteristics. If time and funds allow, he should, before making sweeping recommendations, take a limited area and try carrying out his conclusions to see if they will stand the test of actual practice.

The problem of making sound logical interpretations calls for the deepest kind of sound thinking. While no mechanical means for arriving at the proper recommendations from a given set of data may be provided, the six practical suggestions listed above will frequently make it possible to avoid violating the requirements of sound logic.

**Making Policy Interpretations That Will Be Followed.**—It is not enough to be a sound logician to interpret the findings of a mar-

keting research into recommendations. There are many practical considerations which the analyst must face to insure that the recommendations will be carried out into the marketing operations of the business. A purely theoretical interpretation usually must be greatly modified by these practical considerations. To report the results of a study in terms of the ideal procedures to which it points will usually tempt the executives to reject the findings of the study. The discussion which follows indicates some considerations which will go far toward avoiding this pitfall in interpretation.

1. *The condition of the company and the market should be taken into account.* A purely logical interpretation of the findings of a marketing research in any given field usually will point to a recommendation which could be followed theoretically by all companies in the industry. It is obvious, however, that what might be a good policy for one company might be a very bad one for another. The facts obtained in the situation analysis should be recalled at this point to make sure that the recommendation is modified as required by the situation of the company for which the study is being made. While a research may show the need for developing an additional specialty sales force, if the company does not have sufficient funds, it is obvious that a flat recommendation for such a change should not be made.

At the time the research is made, the company is geared for a certain type of marketing operation. This operation involves tradition, personnel, finances, dealer structures, production policies, and many other established factors. Each recommendation must be properly qualified in the light of all characteristics of the company's marketing operation to insure its success.

In some fields, custom or agreement within the industry affects the marketing operations of individual members. This is becoming more, rather than less, common and should be watched carefully by the marketing researcher. He may discover a rather obvious opportunity for the aggressive marketing of a certain product, only to find that an industry practice on raw materials makes it impossible to carry the recommendation into practice.

It is especially important to check a proposed recommendation to make sure that it is acceptable to dealers. Most companies tend to overestimate the seriousness of dealer complaints, but the researcher must be careful not to recommend a marketing policy which will encounter the opposition of a sufficient number of dealers to negative its value.

The condition of the market at the time the recommendation is made must also be taken into account. If the industry is depressed,



the time may not be ripe for a proposed policy. It is even possible that business conditions have changed since the research was undertaken, so that the change cannot immediately be put into effect.

In connection with this first principle of keeping the condition of the company and the market in mind the researcher should remember that most important changes are usually costly. Furthermore, during the period in which the new policy is first instituted, the gains from following it are not rapidly obtained. For these reasons, the analyst should be careful to estimate the costs of following a proposed recommendation before it is submitted, to make sure that it is not necessary to modify the proposal at a later date.

2. *The probable opposition of executives should be analyzed.* Most marketing research recommendations involve a change in marketing policy. Any proposed change is likely to be interpreted by some executives as a reflection on the efficiency with which they have been performing their functions. One should not submit a plan without first determining the opposition which is likely to be encountered and then taking the necessary steps to overcome this opposition. Executives who believe that a recommendation affecting marketing operations under their direction is a reflection on their efficiency will usually make a personal issue of the recommendation, and sidetrack it by any means at their command.

It is, of course, impossible to avoid opposition. On the other hand, one should not omit a recommendation because it is likely to encounter resistance. It is simply good strategy to determine the probable resistances to a proposal in advance and erect fences before recommendations are made.

3. *Company officials should be given an active part in the interpretation.* The most obvious way to successfully overcome resistance to a proposed policy is to enlist the aid of those who are likely to oppose it while it is being developed. Many researchers make it a policy to show individual findings from the field work to executives as they are received, and to suggest interpretations which the latter come to regard as their own.

Giving officials an active part in interpretation has additional practical value. Their experience is an important factor in developing recommendations which will result in successful marketing practices and policies.

The answer to the question as to how far the researcher should go in interpretation lies largely in this principle. If executives are brought into the interpretation there will be no danger of impracticable recommendations. Furthermore, there should be no criti-

cism of the researcher for taking an active part in carrying the results of the analysis to fruition.

One of the disadvantages of the specialized marketing consultant or other outsider who undertakes analytical work is the difficulty of obtaining the cooperation of company officials in making interpretations. Usually, where an outside organization is employed, it is expected that it will prepare a final report more or less independently. It is for this reason that many such firms do not attempt to carry their work beyond the stage of supplying marketing data, and allow the company to make its own interpretations and application.

4. *The required course of action should be clearly stated.* Many research projects fail to be as effective as they should be because the recommendations are stated so vaguely that the executives of the company do not know what specific marketing operations to follow. If any analysis is worth its cost, it should point directly to a course of action. Unless this is stated in such form that the executives understand it clearly, the benefits of the study are likely to be lost in a maze of general policy discussions.

It is not sufficient to submit a well-written statement of a general plan of action. One should develop workable methods for putting it into effect.

It might appear that to make recommendations as specific as possible will lead to heated discussion and opposition. It is true that if the recommendation is unsound, keen minds considering it will quickly expose the error. On the other hand, if the proposal is sound, its acceptance and extension into practice will be greatly expedited by clear statement.

One should remember that businessmen tend to think in terms of concrete instances and specific cases. They distrust abstractions and generalizations. Recommendations stated in general terms lead to involved discussions of reasons why they are not true. A specific course of action, such as a proposal to set up a test grocery-store demonstration program, suggests immediate action.

5. *A series of progressive changes should be recommended.* Sometimes the final result of research leads to a recommendation which is carried out at a single stroke, such as the dismissal of a sales manager, or the addition of a new type of product. Usually, however, it is possible to state the recommendations in such form that the ultimate goal is reached by a series of progressive steps.

One of the most dangerous practices in marketing research is to recommend sweeping, violent changes. Some executives are greatly impressed by such recommendations, and no one can deny that they

have dramatic power. Sometimes the company is in such poor condition that violent change may be needed. Such a case should be treated as exceptional, however, for the recommendation of broad changes will usually increase the resistance of executives. Marketing research does not usually result in such positive conclusions that one is warranted in making recommendations calling for drastic innovations.

A proposal which recommends a comparatively simple step at the outset, without losing sight of the ultimate goal, is relatively easy to put into effect. Disturbance and confusion will be avoided. The recommendation will have a fair opportunity to demonstrate its merit, without being counterbalanced by such handicaps as inexperienced personnel and inadequate routines. The most successful businesses do not usually have violent fluctuations in policy. Rather, they slowly adapt themselves to changing marketing conditions.

An advantage of recommending a series of progressive changes is that it tends to minimize the danger of having the results of the research handicapped by the overenthusiastic executive. The researcher must constantly be on his guard against officials who become excited over his findings and rush into a radical change in marketing policy. This danger is illustrated by the large number of companies who have suddenly decided to eliminate wholesalers from their distributing organizations. Many of them have been forced to take the hard and slow path back to their former channels after a hasty decision to eliminate this middleman. In many lines, it is true that jobber distribution became less economical. The wise executives, however, were those who gradually set up direct-to-retailer selling operations only where they were clearly more efficient.

The final recommendation of many research studies now calls merely for a specific plan for testing out a proposed course of action on a fairly large scale. This does not possess the finality which most researchers would like to obtain. It is, however, no reflection on the quality of the work and will not be taken as such by most businessmen.

Where the research is based upon survey or observational data, a good deal of rather broad interpretation is usually necessary before the results can be translated into marketing recommendations. In such cases, if it is at all possible, the first step should be a test of the proposed course of action on a reasonably large scale. Even where the study has employed the experimental method, it is usually good judgment to recommend the extension of the "experiment" on

a slightly broader scale, rather than the immediate and complete acceptance of its conclusions.

6. *Recommendations should be interpreted into concrete gains from following the proposed course of action.* The researcher should attempt to determine, if possible, just what the company may gain from following his recommendations in as concrete terms as possible. The number of additional outlets, number of new customers, additional business, potential size of new markets, savings in marketing expense, or other results should be estimated as nearly as possible.

This suggestion has value in helping to insure logical interpretation as well as in the practical matter of gaining its acceptance. It is not, of course, always possible to make even a rough estimate of the specific gains which should accrue. Where such an estimate can be made, however, one sometimes will find that the proposed recommendation has little or no practical value, and should therefore be discarded. There is always the danger of recommending a change when the proposed marketing method really has no measurable advantage over the one in operation.

Estimating the results of following a recommendation in specific terms is of chief value in demonstrating the importance of accepting the recommendation. Businessmen are universally attracted by any reference to greater profit. They are immediately interested if the amount of potential profit, or some development which will lead to an estimated amount of increased profits, is laid clearly before them.

## CHAPTER 25

### PRESENTATION OF THE RESULTS AND FOLLOW-UP

**Importance of the Reports.**—It is generally recognized that many marketing research studies, costing large sums of money and resulting in conclusions which are often of the greatest value, fail because the results have not been properly presented. Sometimes the presentations are too long, sometimes too short. Many reports are too technical, too intricate in their arrangement, or just dull. The analyst often fails to understand the capacity and circumstances of those who must read the report and put its recommendations into effect. It is perhaps safe to say that in the typical case a large share of the effectiveness of a marketing research depends on how skillfully the report is written.

This is, of course, particularly true of the report which comes to the attention of the business executive. It is perhaps unfortunate, but the researcher nevertheless must recognize the fact that some businessmen judge a study more on the appearance of the report than on the merit of the research itself. The researcher has spent considerable time and much of the firm's money in doing a job. He is enthusiastic because the findings point very definitely to important conclusions. Much effort is spent in producing a really worthwhile report. The results are sent to the head of the organization, and the analyst waits for comments. Then he is called into the office and is greeted with the question, "Who read proof on this job? I've found three errors in spelling in the report." When one has had experiences similar to this, he begins to appreciate the importance which the executive attaches to the form of the results.

Many a research which is pure scientific nonsense is considered outstanding and the results are accepted because a board of directors has been swayed by skillful presentation. Many another study which is scientifically sound is cast aside because the executive has concentrated his attention on some minor error in presentation, or for some other reason is not "sold."

The importance of effective reporting of marketing research is emphasized in the following quotation:

Market research will continue its development only if it can improve its service to management. Market research men will move into top management positions and top management men will move into market research on the plane of the same two abilities: the ability to see what answers to management problems can be brought by research, and the ability to simplify the findings of research so they show the answers to these problems of management.

Every time you try to get across a plan, a finding, or a recommendation to officers of your own firm or to a customer, you need salesmanship. No matter how sound and important a report or presentation seems to you, to the other man it is just something else that demands some of his money or his life, and he learns to guard both.<sup>1</sup>

In view of the fact that research is a thoroughly objective process, as has been stressed repeatedly in this book, one may wonder that the popularization of reporting is recommended. Certainly the use of salesmanship must be closely restricted to the reporting phase of research, and complete objectivity maintained at all other times. That it is considered legitimate, however, to promote the acceptance of research findings, once they have been obtained scientifically, is shown by the following statement by a committee of the American Marketing Association:

The process of research is largely one of the impact of facts and ideas on one mind (the researcher's), and is one of penetration. The process of communication, on the other hand, is one of presenting these facts and ideas to other minds; it is a process of interpretation by the written and spoken word aided by the graphic arts. One may not always expect to find equal facility in both processes in every mind. It is therefore of great importance to the marketing researcher to study the needs of reporting as well as of fact-finding itself, and to devise means of achieving good reports, perhaps in spite of his own personal limitations. A persuasive attitude of mind is very helpful to research reporting, and while it may be true that people engaged in selling and promotion as a career should not engage in research, it does not follow that researchers should not use honest salesmanship based on tenable research methods. The fact is that this is just what they should do.<sup>2</sup>

**Determining the Reporting Form to Be Used.**—It is highly desirable that an organization develop certain standard practices in the preparation of reports. These practices may relate to such matters as the outline followed, the use of certain methods of graphic

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<sup>1</sup> Frank R. Coutant, "Market Research Must Hold Executive Attention," *Journal of Marketing*, January, 1946, pp. 288-289.

<sup>2</sup> Committee on Reporting of the American Marketing Association, "Preparation and Presentation of the Research Report," *Journal of Marketing*, July, 1948, pp. 62-63.

presentation, and the size and physical characteristics of reports. At the same time, it must be recognized that marketing research reports prepared by any given organization vary a great deal in their requirements. The differences in the character of research projects, their importance, their uses, and their audience must be taken into account in planning a presentation, and standard practices must be varied to meet the specific needs of each research project.

The Committee on Reporting of the American Marketing Association has prepared the following list of factors which affect the form of the report:<sup>3</sup>

1. The instructions from the authority or client may indicate purely a statistical report on the one extreme or a fully elaborated recommendation on the other.

2. The nature and complexity of the problem will certainly dictate the manner in which the report must be presented.

3. The nature and variety of readers for whom the report is intended will vitally affect its form and content. If a report on the habits of buyers and users of a product is intended for the company's salesmen, it must certainly be less formal and technical, and perhaps briefer and more fully pictorialized than if it is solely for use of the sales manager.

4. The size of the report will influence its format, binding, and even the nature of the exposition of the findings.

5. The number of copies to be made will determine the types of reproduction and therefore the nature of the illustrative material. Where a small number of copies is made, the use of graphics and pictorial material may be restricted because of prohibitive costs.

6. The length of the useful life of the report may influence the expenditure of money and effort that is to be invested in presentation.

**Primary Principles of Presentation.**—All the essentials of sound presentation apply in the preparation of reports. Good English is a first essential. The researcher should choose words which are vivid and make the findings clear. General principles of organization and arrangements which make for unity, coherence, and emphasis are important.<sup>4</sup> All the principles of correct statistical presentation, such as the proper use of charts and graphs, should be carried out. Marketing research presentations, however, while embodying all these general principles, must have special qualities.

The primary fact for the researcher to bear in mind is that there are two distinct groups to be satisfied. The first group includes the

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<sup>3</sup> *Ibid.*, p. 68.

<sup>4</sup> See W. K. Smart and D. R. Lang, *Handbook of Effective Writing*, New York, Harper & Bros., 1943.

general executives. They are not trained research men. They cannot, or will not, follow detailed technical reports. Yet they are the ones who are responsible for investing the money which is required for conducting the research, and they are the ones who must translate the conclusions into actual operation. Accordingly, the development of a report which will meet the demands of this group is absolutely essential.

The second type is the research man. He may be a trained marketing researcher or perhaps just a general statistician. But he knows scientific methodology. He will take time to mull over the most detailed and technical material. He may even take a delight in checking over work to find flaws. He will not be satisfied unless every minute detail of the job is carefully explained.

Most firms either have a technical man on their staff or will see to it that a technician checks the work. While there are still many business houses which do not recognize the importance of having such a person go over the results, their number is decreasing, and the analyst must always be prepared to meet the technician.

**Types of Reports.**—It is usually impossible to serve the demands of both these groups in one style of reporting. Their interests and capacities are so different that if the researcher tries to satisfy both in one form he will find that he has satisfied neither. Accordingly, the marketing researcher makes it a standard practice to think in terms of two reports: (1) the "popular" report, and (2) the "basic," or "technical" report.

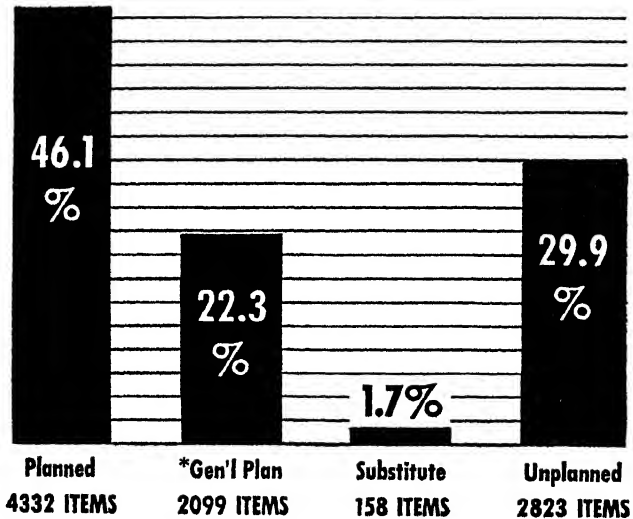
In the actual preparation of the report, the basic material should be worked up first if time permits. This report is the logical, scientific, and complete one. Having developed the basic report, the researcher then abstracts from it, concentrating on the special techniques of popular presentation.

Generally a single report, combining both the popular and technical elements, is produced. The researcher usually begins with a complete assembly of tables, arranged in a logical order under five or more major headings. Within each group those findings which are most significant are selected for popular presentation, with the balance set aside for the statistical appendix to the report. Then a series of charts, illustrating the important tables in popular form, is constructed. The final step is the writing of the verbal copy which, with the charts and tables, represents the entire report. Some researchers make it a practice to concentrate the popular elements of the reporting in the first section of the report, devoting the balance



# THE *Results*

1,448 shoppers were interviewed, and a total of 9,412 items purchased were analyzed. The four types of purchases are shown below.



\*Classification planned, but no specific item.  
Regarding clerk's suggestions see page 9.

Figure 37. Popular Presentation Form

This illustration shows how a limited but important finding from a research is presented with a chart to emphasize the conclusion.

to technical reporting. Others intersperse tables throughout the popular presentation of charts and interpretive copy, although detailed tables on less significant findings should always be confined to the appendix.

In the case of some marketing research studies, however, both a basic and popular report are prepared. The latter may consist of merely a small number of large maps and charts for visual presentation. For a large and comprehensive analysis, the basic report may consist of a brief bound in several volumes. The popular report may involve one or two easel presentations with considerable supplementary material.

Regardless of the length of the reports and whether they are separated, the distinction between the basic and popular forms must be kept clearly in mind. Even in a single fifteen-page report, covering a very small study, the writer must recognize the difference between the technician and the businessman, and write with the requirements of the two groups in mind.

**The Basic Report.**—The basic marketing research report should have the following definite characteristics:

1. *It should be complete.* Nothing should be omitted. Detailed tables, samples of questionnaires or other forms used, a complete exposition of methods, description of the sample, and all other material which will make the basic report a complete scientific document should be incorporated in it.

2. *It should be arranged logically.* Each step in the procedure should be unfolded exactly as it was done. The procedure should have been scientific, which means that the work is divided into specific steps, each step leading logically to the next one. The background and the problem come first, the conclusions and recommendations come last.

3. *It should be impersonal.* The basic report, throughout, should be a clear exposition of what has been done. A statement of facts, without color or bias, is required. It must be unemotional. Weak points must not be covered up.

4. *It must be accurate.* Facts must be accurately stated. Conclusions and recommendations must be sound.

5. *It must contain only pertinent matter.* There should be no padding of the basic report. While it is to be complete, there should be no extraneous material introduced to create an impression.

In order to achieve these characteristics, it is important that the material in the basic report be properly organized. A good outline to be employed would take a form similar to the one that follows:

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## OUTLINE OF THE BASIC REPORT

### TITLE PAGE.

1. Subject.
2. For whom prepared.
3. By whom prepared.
4. Date of report.

### PREFACE.

1. Brief statement of occasion for the study.
2. By whom authorized.
3. Statement or letter of transmittal.

### I. PURPOSE OF THE STUDY.

A clear statement of the problem or problems for which the answer is sought. This should take the form of a clear organization of hypotheses used.

### II. METHODS EMPLOYED.

1. Description of the conditions under which the study was conducted.  
A running account of how the study was made, step by step.
2. Statement of sources of data. Persons interviewed, if any.
3. Samples of schedules and questionnaires. (May be placed in Appendix.)
4. Description of any special methodologies employed with reasons for their use.
5. Statement of limitations from the point of view of scientific methodology.

### III. FINDINGS.

The body of the material on which conclusions are based. This should include significant tables and charts showing all statistical summarizations, whether in table or chart form.

### IV. CONCLUSIONS.

A summary of the most significant conclusions brought out in the study.

### V. RECOMMENDATIONS. (If authorized.)

A statement of specific business policy recommendations to which the conclusions point.

### APPENDIX.

1. Detailed tables, showing data and breakdowns by groups.
  2. Distribution of sample, with validation.
  3. Detailed matters, such as bibliography, etc.
  4. Detailed exhibits of forms used.
-

A set of standards of practice to be used in reporting survey results is being adopted by the American Marketing Association, the Market Research Council, and the American Association for Public Opinion Research. Subject to adaptation by individual associations, a report will conform to these standards if it has the following characteristics :

1. Every report of a survey should contain an explanation of the following points :
  - (a) The purpose of the survey.
  - (b) For whom and by whom the survey was conducted.
  - (c) General description of the universe covered.
  - (d) The size and nature of the sample and description of any weighting methods.
  - (e) The time the field work was done.
  - (f) Whether personal or mail interviews were used.
  - (g) Adequate description of field staff and any control methods used.
2. The main body of every report of a survey should contain :
  - (a) Questionnaire and findings.
  - (b) Bases of percentages.
  - (c) Distribution of interviews.

The basic report on a marketing research may take one of several physical forms, depending on its extent and character. The simplest form appears on standard-size sheets (8½ by 11 inches). Because this limits the space ordinarily required for charts and complex tables, a form gaining in favor employs pages which are 11 by 15, or 11 by 17 inches in size. Charts and tables in this basic report can then be blown up to larger size for popular presentation if desired.

Many reports are so long that it is good practice to break them up in several volumes. This is particularly true if a large amount of technical appendix material is required. The reports are usually bound in a simulated leather binder in loose-leaf form, in order to provide for efficient assembly and to facilitate inserting or deleting pages.

**The Popular Report.**—Frequently a marketing researcher has occasion to prepare a separate popular report for presentation to group meetings. It is assumed that the basic report on the research has been prepared. Attention is now concentrated on the problem of selecting such materials from the basic report as will be best for

popular presentation, and devising means of dramatic presentation to laymen.

The qualities of the group to whom the popular report goes indicate the nature of the report. They are the general business executives—heads of companies, often partially retired from the business;

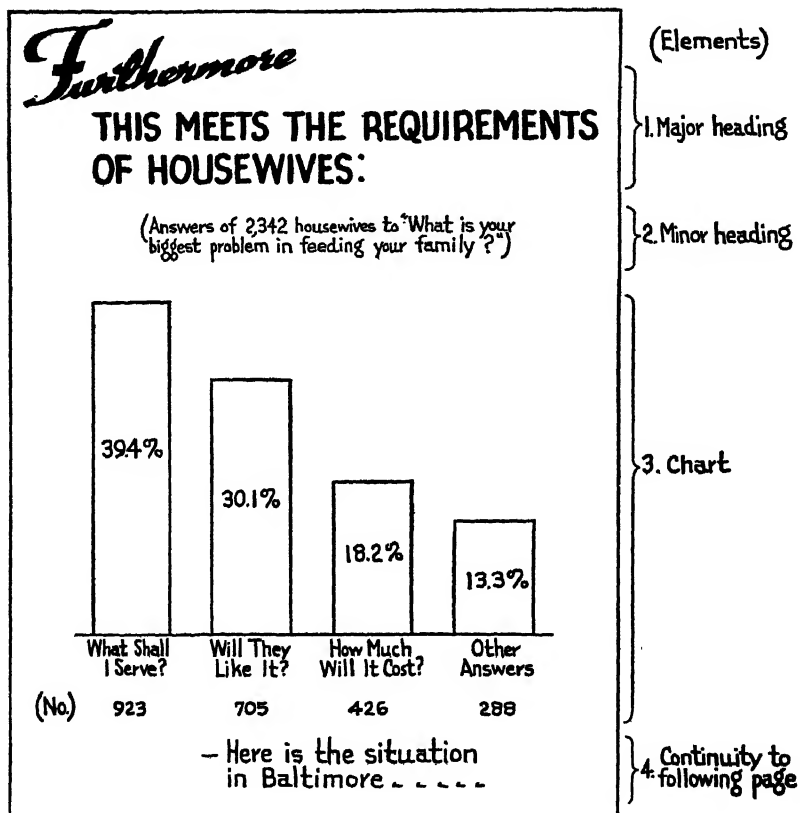


Figure 38. Page from an Easel Presentation

The figure illustrates a standard form for presenting the facts obtained in a research in easel form, so that the viewer may follow the report as he sees it progress from page to page.

directors, who have only sporadic glimpses into the business; general managers, whose minds are filled with myriad details of all aspects of the business; sales managers, whose primary concern is to keep the sales force producing; advertising managers, whose time is taken up largely by copy and media conferences; the treasurer; the comptroller; perhaps the production manager. These men are

busy. To them, marketing research may be a side issue, as compared with the routine of their own jobs.

The American businessman is a man of action. He does not like to ponder problems, he is not a philosopher. The chief characteristic of the executive is his ability to make sound decisions quickly. He sometimes has little patience with time-consuming research and often works on the basis of first impressions. Unless his attention is held completely, his mind will wander to other things.

**Forms for Popular Reports.**—The exact form of the popular report will depend on whether it is to be read by an individual or to be seen visually and listened to by a group.

If the popular report is to be read by a few persons, it is best put up in a convenient reading size. This type of popular report may well be preceded by "feelers," short letters which present the most dramatic findings to the chief executive. The purpose of these "feelers" is to get the man who really controls final decisions to request further information. This is good psychology, for if one can get these men to ask for the findings, they are half sold before they ever see them.

There is an increasing tendency for the popular report to take the form of visual group presentations. The least expensive, hence rather common method for these presentations is to use photostatic blow-ups of typewritten copy and large maps and charts. The research man then delivers his report orally, illustrating from time to time with this material. The material is set up on a table or on racks which make for ease in handling the large sheets. There are definite disadvantages to this type of presentation. The research man must be a good speaker—he must be at his best and make a good speech. The material is clumsy to handle, and thought is often broken by the difficulty in handling material.

Where money and facilities are available, the popular presentation is usually bound in a loose-leaf easel, with the pages hinged at the top so they may be turned over as the report is given. This is the standard professional form.

In preparing such a presentation, each page should be a unit by itself, and have a continuity in the presentation which will hold attention. Above all, copy (statements in words) which extends beyond three or four sentences on each sheet should be avoided. Pages must be turned fairly rapidly to retain attention.

These verbal presentations are very difficult to make. The speaker often loses his control of the conference, or the thought is interrupted

by nonessential questions. When one must turn back five or six pages, much valuable time is lost.

As the result of these difficulties, lantern slides or movie stills are often employed. Sometimes a movie projector with sound accompaniment is used. This form of presentation has many advantages: the "speaker" is always at his best, everything can be timed properly for attention, and there is no interruption. The movie stills make it possible to introduce caricatures or characters and plot to set a tone to the story and dramatize it. By setting a presentation into narrative form based on a theme such as "Livetown and Sleepytown," and unfolding a running story of the contrast between results embodying the recommendations of the research and the present situation, the analyst can effectively present his findings.

The contents and arrangement of the popular report are shown in the outline below. This arrangement may be used if the report is made in small form, or if a more elaborate group presentation is used. It will, of course, need to be modified for different presentations.

**How to Write a Popular Report.**—Writing a successful popular report, whether for individual or for group presentation, is largely a matter of following a few well-recognized principles. The chief qualities which it should possess follow:

1. *Personal characteristics of the persons who are to act on the reports should be taken into account.* Businessmen differ greatly in the type of reports to which they will give the most favorable reception. Some are greatly impressed by extreme dramatic devices, such as large maps, lengthy listings of comments from individual interviews, extensive use of art work and color, or a presentation which obviously seeks to "sell" them. Others will be much more receptive to a more restrained form of presentation. It is important that the researcher gauge his audience just as carefully as a speaker or actor must, to avoid using techniques in presentation which will distract attention. He must, of course, play on the personal whims of the more important people to whom the presentation is directed. A most valuable consideration is that of properly timing the report so that it will be neither too short nor too long. The majority of business executives prefer a popular report which will give them the essential facts in as short a period of time as possible. The researcher must always be prepared for the executive who wishes to "get over the report in five minutes." On the other hand, there are many businessmen who are slow and deliberative in their thinking. The latter type of person will regard a report which

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## OUTLINE FOR A POPULAR REPORT

**TITLE PAGE.** This should keynote the remainder of the report.

### I. WHY THE STUDY WAS MADE.

In from one to three pages the practical importance of the research is quickly established. A brief summary of the objects of the study may be sufficient.

### II. HOW THE STUDY WAS MADE.

A brief summary of the conduct of the study should be presented as quickly as possible, and should not cover more than four or five pages. A map showing the markets used, how calls were distributed in a sample city, and pictures of typical homes interviewed, may suffice. The details of questionnaires or other forms should not be discussed.

### III. CONCLUSIONS AND RECOMMENDATIONS.

A brief summary of the final conclusions of the analysis and the recommendations based on them is often introduced at this point. This insures that attention will be given them, and heightens curiosity in the evidence which will be shown in greater detail later. Sometimes the pages in this section can be divided vertically; hence conclusions can be summarized in "1, 2, 3, . . ." order on the left side and the parallel recommendations summarized on the right side of the page. If this is not practicable, the conclusions should be summarized on one or two pages, followed by a general statement of the recommendations.

### IV. CHIEF FINDINGS OF THE STUDY.

This section should show in visual form the outstanding facts brought out in the investigation. The sample page shown in Figure 38 is from this section of a report. The reader will note that only one fact is presented on each page, thus concentrating attention on a single subject. It is clearly titled, the facts are presented graphically, and continuity with preceding and following pages is established. Only the chief findings are presented in the body of the popular report. If qualifying details are necessary, they may be shown in small scale at the bottom of appropriate pages. Tables are not shown in the popular report if the data may be summarized graphically, as the data necessary to support the chart are shown on the form suggested. This section may contain from twenty-five to a hundred pages. If it is long it should be broken into sections, with appropriate title pages.

### V. RECAPITULATION OF RECOMMENDATIONS.

In this section the recommendations are stated in greater detail, especially if a decision is to be reached when the presentation is made. If the recommendations require an involved plan, they should be written separately and introduced at this point.

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moves too quickly as reflecting a superficial study. In planning the presentation of the results, one must thus size up his audience and develop the report in the light of his best understanding of the personal characteristics of the people to whom it is to be presented.

2. *It should be brief.* The popular report merely "high-spots" the outstanding findings of the study. Usually, however, it is a complete presentation of the most important results. Reference is made to the technical report for those who wish to check further into details.

3. *Emphasis should be placed on the practical use of the findings.* The businessman can understand a recommendation which is stated in terms of some policy or change in the organization of his business. He may be able to understand a general conclusion and make his own interpretation into policy, but not nearly so clearly. The report should talk in terms of policy and use conclusions and data as evidence to support recommendations.

4. *Statistical terminologies and concepts should be avoided as much as possible.* There are many important executives who cannot read a statistical chart. The researcher should use only the simplest of devices, and explain them carefully. He should avoid the use of such terms as "sum" or "mean." They are kindergarten terms to the statistician, but new to the businessman. Many a popular presentation has lost much of its effectiveness because of interruptions caused by the necessity of explaining some statistical technicality.

5. *It should have a definite sales slant.* The researcher should introduce the dramatic and the emotional. He should be positive in his statements. The businessman expects it. The researcher should write the report with the assumption that he must sell both his research and its recommendations.

6. *The arrangement should be psychological, rather than logical.* The researcher should use an arrangement that will get his story over most effectively, thinking in terms of attention value. He should begin with material which will immediately arouse interest, working up to a climax.

7. *It should be dramatized.* Dramatization is the most important single characteristic of the popular report. The researcher strives to obtain as enthusiastic a reception of his work as possible. To do this, he employs many so-called dramatic devices. As long as there is no violation of the truth or distortion of facts, there is no reason why he should not go far in this direction.

### How to Make a Popular Presentation Dramatic.—

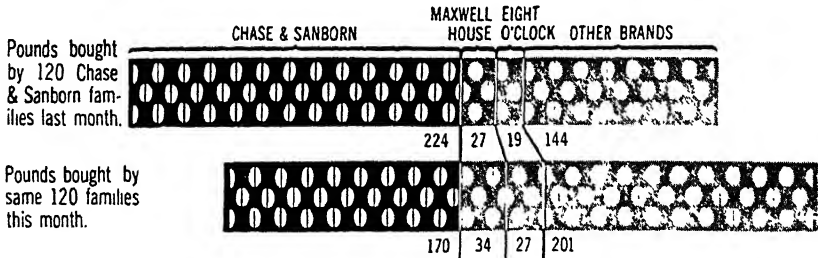
1. HAVE A CENTRAL THEME.—The popular presentation should have a central idea or plot, like a good movie or stage play. Sometimes an effective theme may be merely a word summary of what the analyst set out to determine. Examples are, "What Mrs. Consumer thinks of our product," "A sales program for 1950," or "A new type of outlet for Jones' products." Another form of successful theme is that which injects personality into the story of the results of the analysis. Examples are, "Mrs. Smith tells us," "Livetown versus Sleepytown," or "The three little piggies who went to market." Since most of the listeners are primarily interested in how to increase the profits of the company, a form of theme which centers about "How to increase profits 20 per cent in 1950," is often successful.

Regardless of the type of central theme which is developed, it is most important that the results of the study be presented in an effective psychological order which will unfold step by step, as the plot of a play moves to its conclusion. There are several schemes which help in effective theme development. The researcher generally makes it a point to arrange his material in such order that the most revealing results are shown at the end, to obtain a final climax. One person who has been very successful at building dramatic presentations of marketing research first compliments the executives by showing the favorable results of the analysis and then presents the unfavorable side of the picture, finally leading to the solution of a critical problem.

2. USE VISUAL DEVICES LIBERALLY.—In the popular presentation, words should be kept at a minimum. Here the researcher applies the Chinese proverb, "One picture is worth ten thousand words." The results of the analysis should be presented in simple charts with a minimum of words used for continuity. Very often rather expensive art work is employed to make some of the examples as dramatic as possible. "Blow-ups" (very large pictures, charts, and maps) are often freely used.

It is possible to use entirely too many pictures. Researchers who try too hard to be dramatic are likely to make the mistake of using too many illustrations and decorations in the presentation. A good rule to remember is that a picture should never be used if it tends to distract attention from the point being presented. It is possible to make the popular presentation too pictorial, and thereby give the entire study a very superficial effect.

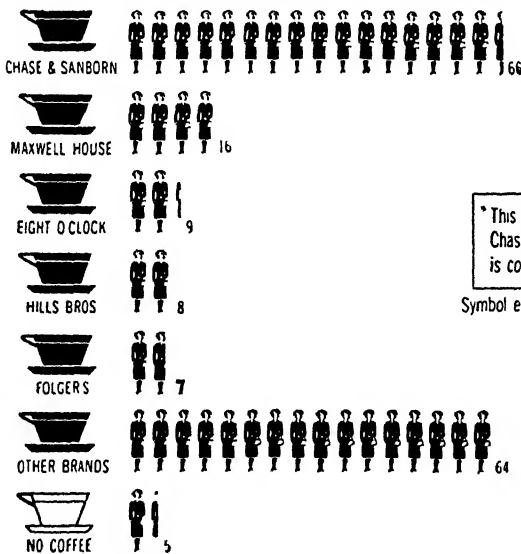
# BRAND LOYALTY of Chase & Sanborn buyers



LAST MONTH 120 FAMILIES BOUGHT CHASE & SANBORN COFFEE



THIS MONTH THE SAME FAMILIES WERE DIVIDED AMONG THE FOLLOWING BRANDS \*



\* This adds up to more than the original 120 Chase & Sanborn buyers because each family is counted once for each brand that it buys.

Symbol explanation. Each buyer represents 4 families.

VISUALFACTS, N. Y.

Figure 39. A Dramatized Bar Chart

The example shows that it is not necessary to violate the rules of graphic presentation to make a chart interesting.

An undesirable result also may be produced by using too expensive or too carefully prepared visual devices. If the charts and illustrations have a certain degree of crudeness about them, it often will be found that a favorable impression will be created. For this reason hand-lettering rather than type is usually employed in visual presentations.

3. **USE SPECIFIC EXAMPLES.**—As mentioned before, the average businessman tends to think in terms of specific cases rather than in generalizations. The researcher should constantly bear this in mind when developing the popular presentation. Where possible, it is a good idea to supplement charts or other generalizations with a few specific examples.

For instance, if a page shows the sales increases obtained by a certain type of display, it should be preceded or followed by a picture of such a display in a specific store, with the increased sales obtained in that store. Many of the listeners will clearly understand the specific illustration, agree with it, and accept the generalization as a consequence.

One important application of this principle is in the part of the presentation which explains how the field work was done and how the sample was distributed. Instead of general statements and laborious explanations, pictures of individual field workers, a large map of one of the markets, a map of a specific street showing homes called on, or a series of photographs of a typical area covered may be used.

4. **USE ILLUSTRATIONS AND ANALOGY FREELY.**—This principle, which is closely related to that of using specific examples, means that one should inject into the popular report references to the experiences of other companies and other industries or even more general analogous illustrations.

The businessman is greatly impressed if he can be shown that a principle being demonstrated for his company holds true for other companies and industries. Suppose, for example, that the chief point in a research for a watch manufacturer is that the market has shifted so that his most important buyers are the members of the mass or wage-earner market. If evidence is introduced which shows that the same situation confronts the manufacturers of radios, electric clocks, high-priced fountain pens, and other commodities, the listener is impressed. In spite of the traditions of business leadership, the fact is that many businessmen are primarily followers and imitators, and the quickest way to get action is to indicate what com-

petitors are doing. For this reason, a carefully handled reference to a competitor in a popular report may go far toward injecting drama into the presentation.

The use of concrete analogy to dramatize theoretical ideas is a common practice. An analyst wished to show the relationship between the functions of general advertising, direct-mail advertising, and the salesman in the marketing of automobiles. Instead of a theoretical discussion, he drew for an analogy upon the manufacturing process used in finishing a cylinder block. The first crude process—boring, which was rapid and inexpensive—was compared to general advertising, which reached a maximum of people (few of whom were real prospects) at a minimum cost. The second step—sand blasting—was still crude, but finer and more expensive than the first. This procedure was likened to direct mail, which sought out more likely prospects at a higher cost than general advertising. The final step—machining—is the most costly process in finishing a cylinder block. The work of the salesman was compared to the work of the machinist.

The relationship between the three marketing methods was thus developed in understandable terms. The main point, that one would no more rely upon salesmen to do the rougher work of demand creation than he would use a machinist for all the operations in finishing the cylinder block (although one could at very high cost), was quickly and effectively established.

The liberal use of analogy in developing the popular report can be an effective application of the psychological principle of leading from the known to the unknown. If the analogies are drawn from the industry of the company for which the study is made, they will immediately obtain attention and understanding.

5. **WRITE IN HEADLINE STYLE.**—The copy (words) which is used in the popular report should be similar to the headlines of advertisements. The writing should be as brief and clear as possible; the words and sentence structure should be simple. Most of the findings are established by charts and other visual devices. The purpose of the written material is to provide continuity and necessary explanations. The writing is sketchy and largely elliptical; short phrases rather than complete sentences are often relied upon.

6. **USE PHYSICAL DEMONSTRATION DEVICES.**—The basic popular presentation is usually contained in a pyramid, or triangular easel which holds large sheets of heavy paper hinged at the top so they can be turned over the easel as the story is presented.

In order to relieve the monotony of going through such a presentation and to introduce more vivid dramatics, special demonstration devices or more spectacular displays are sometimes introduced during the reading of the basic presentation. The simple form is the jumbo map or chart, which by its size secures emphasis. Frequently several large displays are arranged about the walls to provide a "stage setting" for the basic presentation.

The accordion folder is another variation. In this device a series of photographs or illustrations are mounted on cards which are joined so that one person may hold each end of the series and the individual cards appear in order as the two individuals separate. As many as twenty-five units may be thus mounted. The accordion fold is best used when a large number of units, which all demonstrate the same point (like pictures of typical store displays used in a test), are shown rapidly to impress the listener with the breadth and intensity of the investigation.

Another display device is the use of a street map which is on a roller so that it may be unrolled as desired by the person making the presentation. The listener is asked to walk down a typical street with the investigator. Information such as the various brands found in homes is shown for each individual call. This applies the principle of showing specific examples in a form which possesses much drama.

The variety stores are a veritable gold mine of materials which may be used as demonstration devices. If one is presenting the results of an analysis of trends in the automobile market, for example, he may lay a number of toy cars on a large table in such a form that they may be moved about to represent the findings in animate chart form. Dummy cartons of a product may be piled up before the listeners to represent crude charts which visualize the results of the analysis.

Another excellent device for popular presentations is that of introducing some sort of mechanical device which in its operation illustrates your point. A very ingenious presentation was made by an analyst who had been studying profit results from stock turn. He had a machine built to illustrate the conclusions of his studies. In a hopper at the top 100 pennies were dropped. There were two compartments below, one was marked "X products—low margin, rapid stock turn," the other "Competing products—high margin, slow stock turn." A crank, when turned, distributed the pennies into two receptacles, one marked "Profit from handling X products," the other "Profit from handling competing products." Gears in the machine

distributed the pennies in the ratio determined, which forced more pennies at each time into the "Competing products" compartment, but which sent pennies more rapidly into the "X products" compartment. Thus, after the 100 pennies were run through the machine, the "X products" showed the largest profit. This device was excellent because it was visual and had motion in it. Furthermore, it showed the executives how salesmen, equipped with similar machines, could dramatize the story to dealers, to make more sales.

**7. SHOW THE SPECIFIC GAINS FROM FOLLOWING THE RECOMMENDED COURSE OF ACTION.**—This principle was explained in Chapter 24, in the discussion of the development of interpretations which will be put into practice. It should be carried over into the popular presentation wherever it is found feasible to make an acceptable positive statement.

If it is possible to estimate the additional sales, profits, dealers, users, or other gains which may be attained by following the recommendations of the research, a strong statement of them may well be the climax of the popular report. In a sense this statement may be regarded as analogous to the salesman's "closer," in which he presents his strongest selling argument with an urge to action.

**Standards of Report Presentation.**—In preparing the report for a marketing research, it is necessary to keep in mind certain basic standards which must be followed. Adhering closely to these standards is an earmark of professional competency. Their consistent presence in the report will insure greater acceptance of the findings and conclusions, and will also guard against attack or criticism by technicians.

It is to be assumed that the report will follow the recognized standards for good composition. This means accuracy, clear concise writing, avoiding the overtechnical, and freedom from grammatical blunders.

**Standards for Statistical Presentation.**—Since all marketing research employs statistical method to a greater or less degree, it is important that basic principles of good statistical presentation be followed. The primary, basic standards have been enunciated by the Committee on Reporting of the American Marketing Association as follows:<sup>5</sup>

(a) Does every statistical device have a real meaning in terms of the problem under study?

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<sup>5</sup> "Preparation and Presentation of the Research Report," *op. cit.*, p. 70.

(b) Are tabulations and charts accurately reproduced? Have they eye appeal?

(c) Are complex statistical devices, as for example, coefficient of correlation or semi-logarithmic charts, adequately explained for the reader's purpose?

(d) Do all charts and diagrams conform to sound statistical principles? Titles must be clear and scales must never be exaggerated. Simplicity should be the main objective.

**Standards in Graphic Presentation.**—Charts and graphs, which present statistical facts in visual form, are used very extensively in the presentation of marketing research. Adequate general treatment of this subject is readily available in general textbooks on statistics. However, in the production of charts it is very useful to have a list of standards which will guard against the danger of resorting to unsound practices. Such a check list has been prepared by the Joint Committee on Standards for Graphic Presentation of the American Society of Mechanical Engineers.<sup>6</sup> Excerpts from these rules which cover the points most generally applicable to marketing research charts are given in the following check list:

#### 1. *General Rules.*

- (a) The general arrangement of a diagram should proceed from left to right.
- (b) Where possible, represent quantities by linear magnitudes, as areas or volumes are more likely to be misinterpreted.
- (c) For a curve, the vertical scale, wherever practicable, should be so selected that the zero line will appear on the diagram.
- (d) If the zero line of the vertical scale will not normally appear on the curve diagram, the zero line should be shown by the use of a horizontal break in the diagram.
- (e) The zero lines of the scales for a curve should be sharply distinguished from the other coordinate lines.
- (f) For curves having a scale representing percentages, it is usually desirable to emphasize in some distinctive way the 100 per cent line or other line used as a basis of comparison.
- (g) It is advisable not to show any more coordinate lines than necessary to guide the eye in reading the diagram.
- (h) The curve lines of a diagram should be sharply distinguished from the ruling.
- (i) The horizontal scale for curves should usually read from left to right and the vertical scale from bottom to top.

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<sup>6</sup> See also L. Edwin Smart and Sam Arnold, *Practical Rules for Graphic Presentation of Business Statistics*, Bureau of Business Research, Columbus, The Ohio State University, 1947. This book contains many illustrations of the various types of charts in standardized forms.



- (j) Figures for the scales of a diagram should be placed at the left and at the bottom or along the respective axes.
- (k) It is often desirable to include in the diagram the numerical data or formulas represented.
- (l) If numerical data are not included in the diagram, it is desirable to give the data in tabular form accompanying the diagram.
- (m) All lettering and all figures on a diagram should be placed so as to be easily read from the base as the bottom, or using the right-hand edge of the diagram as the bottom.
- (n) The title of a diagram should be made as clear and complete as possible. Subtitles or descriptions should be added if necessary to insure clearness.

## 2. *Curve or Line Charts.*

- (a) Units of measurement should be selected which will allow desired curves to be plotted without exaggeration.
- (b) When the chart covers a long space of time, it is well to place the vertical scale at the right as well as at the left. Similarly, it may be advisable to put dates at the top as well as at the bottom.
- (c) Reading matter should not appear in the body of the graph.
- (d) Whenever it is desired to represent rates of increase or decrease, the ratio or logarithmic chart should be used.

## 3. *Bar Charts.*

- (a) Bar charts may be used to show relative values between two or more factors.
- (b) Bar charts may be used to show component parts.
- (c) Figures and descriptive matter should preferably be placed at the left of the bars.
- (d) Bars should always be of the same width.
- (e) Bars should be wide enough to prevent optical illusion. (See standard reference books.)
- (f) When horizontal bars represent years, the earliest years should be shown at the top; vertical bars, at the left.
- (g) Spaces between bars should represent equal periods. Where it is necessary to represent unequal periods, there should be a proportionate amount of space between the bars.
- (h) When certain facts are emphasized because of importance or design, they should appear at the top, or from left to right.

## 4. *Circle Charts.*

- (a) The use of circle charts should be confined to the showing of component parts.
- (b) Circles should not be used to compare more than a few component parts.

- (c) When descriptive matter is incorporated in the circle, it should be readable without turning the illustration.
- (d) If two or more circles are used, comparison should be based upon area rather than diameter.

### 5. *Pictorial Charts.*

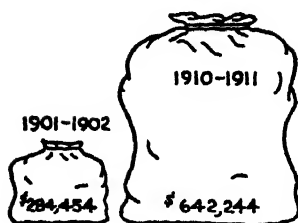
- (a) The unit should be as simple as possible.
- (b) The comparison should be on one dimension only and that dimension mentioned in order that the reader may determine the actual relation if supporting statistics are not included.
- (c) The method and basis of comparison should be plainly stated in the caption, title, or table accompanying the chart.
- (d) The reading matter should be especially clear and complete to compensate for the difficulty in judging correctly from the pictorial chart alone. In all cases the description should be closely associated with the diagram.

### 6. *The Ratio or Logarithmic Chart.*

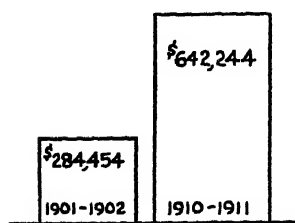
- (a) In general, the rules for constructing ratio charts follow those given for arithmetic charts.
- (b) Primarily, a chart should be upon one-zone paper if it can be so arranged.
- (c) Vertical scales should be placed on both sides of the coordinate area. Intermediate coordinates should be clearly labeled where they indicate important points.
- (d) No data should be upon the graphic field, except perhaps, a title.
- (e) Horizontally, the periods should be as far apart as is necessary to present a clear picture. This may be one square where vertical fluctuations are relatively narrow, or several squares where the vertical fluctuations are wide and frequent.

### 7. *Map Charts.*

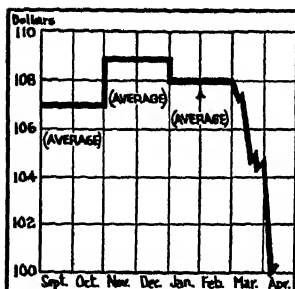
- (a) The localities of areas to be emphasized should be marked with the heaviest shadings, or otherwise made to appear prominent.
- (b) Density of distribution should be shown by the dot method. (The relation between size of dot and value represented must be constant on any given map.)
- (c) Color should be used wherever it serves to show relative values between various portions of the map.
- (d) Color should be used where it is desirable to differentiate between various portions of the map.
- (e) Descriptive and reading matter should always be large enough to be plainly legible.
- (f) Where pictorial symbols are used on the map, descriptive titles or explanations should always accompany them.



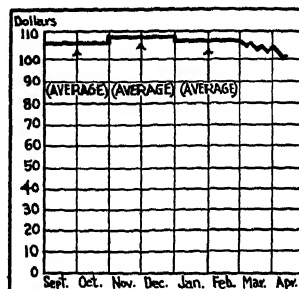
(a)



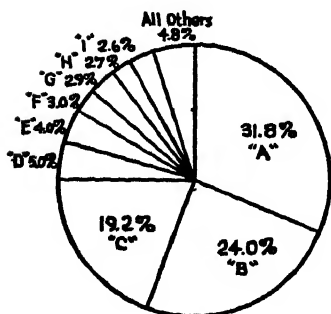
(b)



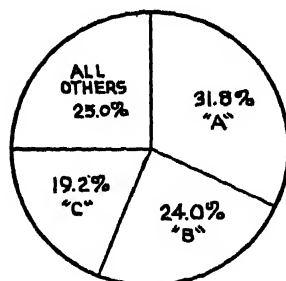
(c)



(d)



(e)



(f)

Figure 40. Examples of Incorrect and Correct Methods of Charting

(a) Violation of Rule 1(b). (b) The bar chart shows the proper relationship. (c) Example of distorted effect caused by omitting base line. (d) The chart to the left redone in accordance with Rule 1(c). (e) Violation of Rule 4(b). (f) Correct treatment of pie chart to left.

The three left-hand charts show the distortion or confusion caused by faulty charting; the three right-hand charts are drawn according to accepted standards. Note especially the contrast in the two line charts—the incorrect one shows great exaggeration of a decline which is actually less than 8%.

8. *Standard Colors.*

## STANDARD COLOR CHART

## Number of Colors Used

Two	Three	Four	Five	Six
red	red	red	red	red
				orange
		yellow	yellow	yellow
	green	green	green	green
blue	blue	blue	blue	blue
			purple	purple

Note: When only one color is wanted any color may be used.

**Checking the Reports.**—After the materials for presentation have been completed, it is usually beneficial to go over them carefully, checking against some such list of generally undesirable characteristics of reports as the following: <sup>7</sup>

1. No clear statement of the problem—this should be stated at the beginning of the reports.
2. No concise summary.
3. Poor organization—the reports should be divided into sections clearly related to one another.
4. Lack of continuity from page to page.
5. Lack of thorough analysis.
6. Failure to describe methods carefully, including pretesting, how interviewers were selected and trained, details of instructions, methods of interviewing employed.
7. Lack of complete description of the sample employed, how it was prepared, its limitations, and validation.
8. Failure to show relative importance of factors.
9. Hasty generalization.
10. Reasoning in a circle.
11. False analogy.

<sup>7</sup> See also Committee on Research of the American Association of Advertising Agencies, "Standards for Appraising Market and Advertising Research," October, 1938. This statement presents a thorough check list of challenges to a research report and is particularly useful in preparing the statements of method and limitations.

12. Unjustified argument from authority.
13. Irrelevant material introduced.
14. Lack of proof.
15. References not given.

**The Oral Presentation.**—It is standard practice for research reports to be first presented orally to a group of key executives. Later other oral presentations are frequently made to special groups, such as the sales organization, members of the advertising department, or groups of dealers. A great deal of the acceptance of marketing research depends on the skill with which these oral presentations are made, and here the researcher must most literally be a salesman of the findings of the research.

The following standards for oral presentation have been prepared by the Committee on Reporting of the American Marketing Association:<sup>8</sup>

a. See to it that physical facilities are adequate and well planned. Check ventilation and have sufficient lighting arranged to focus attention on the charts. The audience must be comfortable but not too comfortable.

b. Keep the meeting free from interruptions and distractions. The speaker should control the situation and command respectful attention.

c. The person making the presentation must have a full grasp of the report and of its implications with respect to the problem. A rehearsal helps.

d. Avoid confusing technical jargon and translate concepts into terms and images that are readily understood.

e. The oral delivery may be informal but there must be good choice of words and word images, with pleasing voice.

**Statement of Limitations and Restriction.**—Every research report should contain, in a prominent place, a clear statement of the extent to which the results of the research are dependable. This calls for a careful consideration of the validity of the actual evidence which has been obtained. After such consideration, a statement of the limitations of the research must be brought to the attention of the reader, generally along with the statement of the reliability of the findings.

It is also standard practice to place some restriction on the use of reports. This may consist of a statement that the report is limited to the confidential use of the executives of the firm or firms concerned. In case the research is conducted by an independent research organization, it is good professional practice to incorporate a statement limiting the publication of the findings to exact repro-

<sup>8</sup> "Preparation and Presentation of the Research Report," *op. cit.*, pp. 70-71.

duction from the report or subject to the approval of the research firm.

There is always danger that some ambitious executive will take parts of a research report, reinterpret them, and use them for promotional purposes. Too often this process involves garbling data, presenting only part of the findings, or employing charts and other statistical devices which distort the facts. This practice does marketing research a great deal of harm, and must be controlled as much as possible. A clear statement on restriction of the use of research findings for promotional purposes is the first remedy.<sup>9</sup>

### The Follow-Up

The last step of marketing research is carrying the recommendations into practice. The success with which the researcher will take an active and effective part depends upon the degree to which he possesses experience and ability in marketing. One who attempts to put an advertising recommendation into effect must be a qualified advertising man as well as a marketing researcher. One who makes a change in a sales operation must have the personal abilities of a sales executive. The practical side of the analyst and his work meet an acid test when the final recommendations are transferred into operations.

Observation of the general practice of marketing research in the United States reveals that neglect of the follow-up to the research—seeing to it that the individual firm effectively translates the conclusions into its day-to-day operations—is an outstanding weakness in most businesses. Too often business executives are content to read reports, agree with them in principle, and then retain the old, inefficient marketing practices. Too often the researcher feels that his responsibility ends with the delivery of the final report. Too frequently fear of hurting the feelings of company personnel, failure to delegate responsibility, and the inertia of the complex business organization rob marketing and distribution research efforts of their full value.

The *ultimate test of the value of a marketing research* lies solely in the results which have been accomplished by carrying its recommendations into effect. But unfortunately, the general impression made on executives, the technical skill with which the work has been done, the dramatic presentation of the findings in conference, and similar superficial phases of marketing research frequently receive

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<sup>9</sup> See C. B. Larrabee, "Let's Not Blunt a Fine Tool," *Printers' Ink*, April 11, 1947.

undue consideration. What really counts is the degree to which its conclusions are adopted in business practice. The marketing researcher must appreciate the importance of all aspects of his work. However, he can only feel sure that his work is justified if clearly traceable results are found in the actual operation of the business.

There are definite advantages in having the market researcher take an active part in the follow-up work. In the first place, the knowledge which he has gained through his intimate contact with the marketing problem will prove indispensable in setting up a sound plan for carrying out the recommendations. Actual practice in carrying the results of the research into operation also contributes greatly to the skill of the researcher and, in turn, to the value of future studies which he will make for the company. Finally, by taking an active part in the actual marketing operations, he gains the confidence of executives and other employees with whom he has to work.

The follow-up stage in marketing research usually should first take the form of carrying out the recommendations of the study on a small scale. By such a test the researcher can determine whether the recommendations are entirely practicable, and also the best form in which they may be carried into effect. The results of the analysis often call for vital changes in the marketing policies of a company. Such changes generally should not be made too rapidly because the disturbances created by the change may defeat the values to be obtained. A careful testing of the new procedure will also indicate clearly any modifications demanded by practical considerations.

**Insuring the Success of Follow-Up.**—The foundation of successful follow-up is the development of policy interpretations which will be followed by business executives. The general rules for adapting interpretations to their requirements have been discussed in detail (see pages 566–571). After the final report has been prepared, it is usually good practice to review the recommendations to make sure that they are in accord with these principles.

After the researcher has reviewed his recommendations to be certain that they are adapted to the requirements of the executive, he may further insure the success of his follow-up work by employing the following principles:

1. Get thoroughly acquainted with the business—know its marketing operation in detail.

2. Cultivate the personal friendship of *all* the personnel you possibly can—from top-management executives to salesmen on the firing line.
3. Honestly create the impression in your every action that you have one interest at heart—the welfare of the company, rather than your own personal advancement.
4. Show operating personnel how the research makes their job easier—how they can use it to grow in stature.
5. Don't be afraid to stand on your facts—recognize the limitations and any deficiencies of your research—be the first to admit an error or weakness, and don't claim too much.
6. Keep any discussion of the recommendations on the main and critical issues—don't quibble over technique or minor points.
7. Review progress in the application of the results of the research constantly and regularly—find the specific improvements, then be sure everyone knows about them.

In other words, the researcher must live and sell the application and success of marketing and distribution research all the time. Only as a result of such constant pioneering and persuasion will American business take full advantage of this new tool of management.





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